

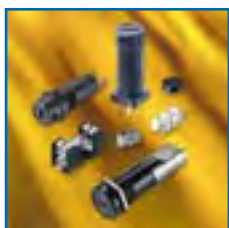
SUMMARY



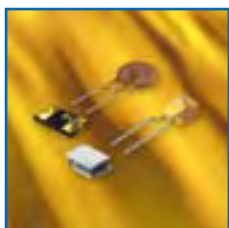
NON RESETTABLE FUSES	4
Selector Chart	5
Fuse Kits	184
Time-Current Curves	188
General Product Information	383



TELECOM FUSES	209
Selector Chart	210
Time-Current Curves	226
General Product Information	383



FUSEHOLDERS	228
Selector Chart	229
Accessories	357
General Product Information	383



PTC FUSES	358
Selector Chart	359
Time-Current Curves	377
General Product Information	383

PACKAGING	379
------------------	------------

GENERAL PRODUCT INFORMATION	383
------------------------------------	------------

SCHURTER INTERNATIONAL	398
-------------------------------	------------

INDEX BY TYPES	406
-----------------------	------------

INDEX BY ORDER NUMBERS	407
-------------------------------	------------

A market leader's statement: The SCHURTER mission



With the development, production and sales of active and passive components for electronic and electro-mechanical applications SCHURTER is a leading global industry partner. The SCHURTER Group leads the way in its four strategic business areas, using its innovative strength and cutting-edge technology to provide customers with intelligent practical solutions.

“Both now and in the future, our customers are guaranteed the best products world-wide; products which perfectly correspond to their individual needs. SCHURTER is permanently committed to the excellent quality of its products and business practices which are ecologically sound.”

Hans-Rudolf Schurter, Schurter Holding AG

Leading the way in four strategic business areas

FUSES



CIRCUIT BREAKERS FOR EQUIPMENT (CBE)



CONNECTORS



INPUT SYSTEMS



Business excellence as a SCHURTER commitment

SCHURTER achieves its high level of overall quality as an enterprise through consistent implementation and training using the EFQM model (European Foundation for Quality Management). Quality and environmental management, social commitment and safety at work are interlinked. We use SIX SIGMA methods for continual improvement of our products and processes. As a result our customers recognise in us a reliable and long-term partner.



SCHURTER will supply all products RoHS compliant at the latest by 1.1.2006 according to the requirements of the EU-directive 2002/95/EG. Most of the products are already RoHS compliant.

Please get detailed information about the availability at www.schurter.ch/products/rohs.asp



EFQM
General Member



CERTIFIED MANAGEMENT SYSTEMS TO ISO 9001, ISO 14001, OHSAS 18001 AND SA 8000

Esprit Award Winner 2002

Swiss Quality Award for Business Excellence

SIX SIGMA by SCHURTER

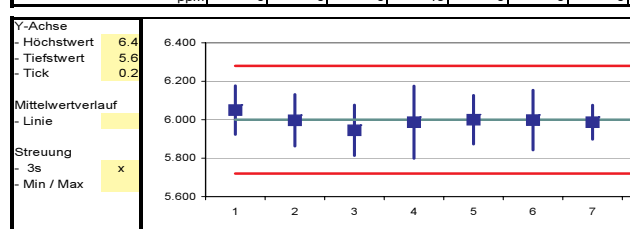
Systematic and lasting improvements of processes and products.

We employ the SIX SIGMA methods to consistently produce fault-free components and to align all processes to our customers' requirements. We detect critical process factors, identify improvement potentials and systematically carry out improvements. Process performance indicators such as ppm and cpk show us which processes fulfil the demanding standards of SIX SIGMA and where measures are necessary. At the same time they also provide our partners and customers with evidence of our highly developed processing capability. Today and in the future, SIX SIGMA is the basis for excellent processes at SCHURTER.

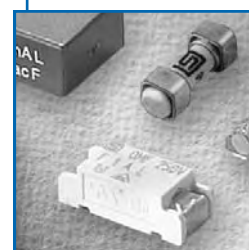
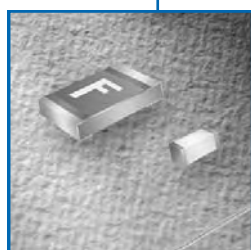
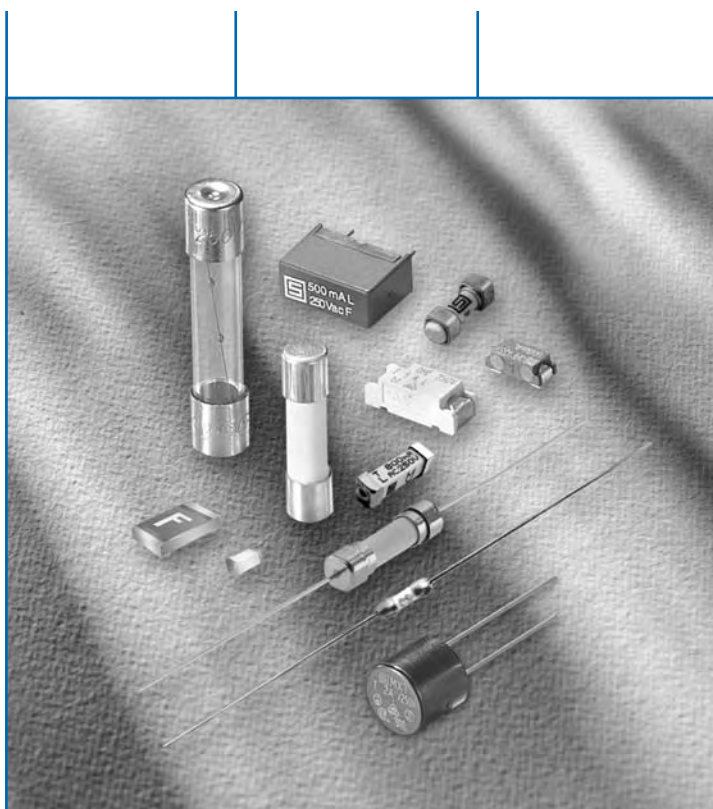
Fuses Automat 51.93 MSF/MST/MXT 250 V

Six Sigma by
SCHURTER

Länge Glasfaser	Nennmass 6 mm				obere TG 6.28			
Prüfanw. 0181.0530	1	6.02	5.98	5.89	5.91	5.99	6.00	5.99
	2	6.10	5.95	5.94	6.12	6.01	6.02	6.01
Pro Vorserie je 10 Stück	3	6.05	5.99	6.00	6.00	5.97	5.94	5.92
aufgelötete SL auf Länge	4	6.02	6.01	5.97	6.01	6.03	6.03	6.00
prüfen	5	6.09	5.95	5.96	5.95	6.03	5.97	6.01
	6	6.12	5.96	5.87	5.96	5.90	5.89	5.97
Prüfgerät 5393	7	6.07	6.10	5.97	5.99	6.02	6.00	5.99
(06.01.201)	8	6.00	5.99	5.90	6.02	5.98	6.06	5.96
Binokular mit	9	6.01	6.03	5.99	5.90	6.04	6.05	6.02
Spannvorrichtung	10	6.02	6.01	5.96	6.01	6.03	6.02	6.00
x quer		6.050	5.997	5.945	5.987	6.000	5.998	5.987
s		0.042	0.045	0.044	0.063	0.042	0.052	0.030
cp		2.200	2.075	2.120	1.484	2.200	1.794	3.129
cpk		1.807	2.053	1.703	1.415	2.200	1.781	2.983
ppm		0	0	0	13	0	0	0



NON RESETTABLE FUSES



SELECTOR CHART

NON RESETTABLE FUSES



Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse
Dimensions	1.6 x 0.8 mm	3.2 x 1.6 mm	3.2 x 1.6 mm	10.1 x 3 mm
Product picture				
Type	USF 0603	USF 1206	MGA	UMT 250
Rated Voltage	32 VAC/DC	32/63 VAC/DC	32 - 125 VAC/DC	250/125 VAC/DC
Rated Current	0.5 - 5 A	0.375 - 4 A	0.2 - 5 A	0.315 - 4 A
Breaking Capacity	50 A	50 A	50 A	200 A
Comment	ESA approved type on request			
Characteristic	Super-Quick-Acting FF	Super-Quick-Acting FF	Super-Quick-Acting FF	Time-Lag T
Approvals	CCC	CCC	CCC	CCC
Catalogue page	xxx	xxx	xxx	xxx

Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse
Dimensions	7 x 2 mm	7 x 2.54 mm	7 x 2 mm	7 x 2.54 mm
Product picture				
Type	172876	MKF	MSB	MKT
Rated Voltage	63 - 125 VAC/DC	63 - 125 VAC/DC	65 - 125 VAC/DC	65 - 125 VAC/DC
Rated Current	0.063 - 15 A	0.063 - 15 A	0.75 - 15 A	2 - 15 A
Breaking Capacity	300 A	300 A	50 A - 150 A	50 A - 150 A
Comment				
Characteristic	Quick-Acting F	Quick-Acting F	Time-Lag T	Time-Lag T
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse
Dimensions	7.4 x 3.1 mm	12 x 5.2 mm	7.4 x 3.1 mm	12 x 5.2 mm
Product picture				
Type	OMF 63	OMK 63	OMF 125	OMK 125
Rated Voltage	63 VAC/DC	63 VAC/DC	125 VAC/DC	125 VAC/DC
Rated Current	0.063 - 10 A	0.063 - 5 A	0.063 - 10 A	0.063 - 5 A
Breaking Capacity	50 A	50 A	100 A	100 A
Comment				
Characteristic	Quick-Acting F	Quick-Acting F	Quick-Acting F	Quick-Acting F
Approvals	CCC	CCC	CCC	CCC
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

NON RESETTABLE FUSES



Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse
Dimensions	7.4 x 3.1 mm	12 x 5.2 mm	11 x 4.6 mm	11 x 4.6 mm
Product picture				
Type	OMT 125	OMZ 125	OMF 250	OMT
Rated Voltage	125 VAC/DC	125 VAC/DC	250 VAC/DC	125 - 250 VAC
Rated Current	0.25 - 5 A	0.25 - 5 A	0.25 - 4 A	0.75 - 5 A
Breaking Capacity	100 A	100 A	100 A	50 A - 100 A
Comment				
Characteristic	Time-Lag T	Time-Lag T	Quick-Acting F	Time-Lag T
Approvals	CCC	CCC	CCC	CCC
Catalogue page	xxx	xxx	xxx	xxx

Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Subminiature Fuse
Dimensions	5 x 20 mm	5 x 20 mm	5 x 20 mm	6.4 x 6.4 mm
Product picture				
Type	SMD-FST	SMD-SPT	SMD-FTT	MSF 125
Rated Voltage	250 VAC	250 VAC	250 VAC	125 VAC/DC
Rated Current	0.05 - 20 A	1 - 16 A	0.16 - 4 A	0.1 - 5 A
Breaking Capacity	35 A - 125 A	500 A - 1500 A	35 A	300 A
Comment				
Characteristic	Time-Lag T	Time-Lag T	Super-Time-Lag TT	Quick-Acting F
Approvals	CCC	CCC	CCC	CCC
Catalogue page	xxx	xxx	see WEB	xxx

Style	Subminiature Fuse	Subminiature Fuse	Subminiature Fuse	Subminiature Fuse
Dimensions	8.5 x 8.5 mm	8.5 x 8.5 mm	8.5 x 8.5 mm	8.5 x 8.5 mm
Product picture				
Type	MSF 250	MST 250	MSTU 250	MXT 250
Rated Voltage	250 VAC/DC	250/125 VAC/DC	250 VAC	250 VAC
Rated Current	0.04 - 5 A	0.05 - 6.3 A	0.063 - 10 A	0.8 - 10 A
Breaking Capacity	35 A	35 A - 63 A	50 A	100 A
Comment	Fuse Kit available	Fuse Kit available		
Characteristic	Quick-Acting F	Time-Lag T	Time-Lag T	Time-Lag T
Approvals	CCC	JET	CCC	JET
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

NON RESETTABLE FUSES



Style	Subminiature Fuse	Subminiature Fuse	Subminiature Fuse	Subminiature Fuse
Dimensions	11.5 x 5 mm	11.5 x 5 mm	10 x 10 mm	86 x 2.36 mm
Product picture				
Type	FRT 250F	FRT 250T	PSC 125V	172321
Rated Voltage	250 VAC/DC	250 VAC/DC	125 VAC/DC	32 - 125 VAC/DC
Rated Current	0.16 - 10 A	0.2 - 10 A	1 - 5 A	0.063 - 15 A
Breaking Capacity	100 A	100 A	50 A	300 A
Comment				
Characteristic	Quick-Acting F	Time-Lag T	Quick-Acting F	Quick-Acting F
Approvals				GAM T1
Catalogue page	xxx	xxx	see WEB	xxx

Style	Subminiature Fuse	Subminiature Fuse	Subminiature Fuse	Miniature Fuse
Dimensions	86 x 2.36 mm	86 x 3.8 mm	86 x 3.8 mm	5 x 20 mm
Product picture				
Type	172322	172593	172844	FSF 5x20
Rated Voltage	32 - 125 VAC/DC	125 - 250/125 VAC/DC	65 - 125 VAC/DC	250 VAC
Rated Current	0.063 - 15 A	0.05 - 5 A	0.125 - 10 A	0.032 - 10 A
Breaking Capacity	50 A - 300 A	50 A - 300 A	50 A - 100 A	35 A - 100 A
Comment	Fuse Kit available			
Characteristic	Quick-Acting F	Quick-Acting F	Time-Lag T	Quick-Acting F
Approvals				
Catalogue page	xxx	see WEB	see WEB	xxx

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	101.2 x 5.8 mm	5 x 20 mm	101.2 x 5.8 mm	5 x 20 mm
Product picture				
Type	FSF 5x20 Pigtail	FST 5x20	FST 5x20 Pigtail	SP 5x20
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	0.5 - 10 A	0.02 - 20 A	0.5 - 20 A	0.5 - 16 A
Breaking Capacity	35 A - 100 A	35 A - 200 A	35 A - 200 A	500 A - 1500 A
Comment		Fuse Kit available		Fuse Kit available
Characteristic	Quick-Acting F	Time-Lag T	Time-Lag T	Quick-Acting F
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

NON RESETTABLE FUSES



Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	101.2 x 5.8 mm	5 x 20 mm	101.2 x 5.8 mm	5 x 20 mm
Product picture				
Type	SP 5x20 Pigtail	SPT 5x20	SPT 5x20 Pigtail	FSK 5x20
Rated Voltage	250 VAC	250 VAC	250 VAC	125/250 VAC
Rated Current	0.5 - 16 A	0.5 - 16 A	0.5 - 16 A	0.05 - 6.3 A
Breaking Capacity	500 A - 1500 A	500 A - 1500 A	500 A - 1500 A	32 A - 10 kA
Comment		Fuse Kit available		
Characteristic	Quick-Acting F	Time-Lag T	Time-Lag T	Quick-Acting F
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	101.2 x 5.8 mm	5 x 20 mm	101.2 x 5.8 mm	5 x 20 mm
Product picture				
Type	FSK 5x20 Pigtail	FSL 5x20	FSL 5x20 Pigtail	SA 5x20
Rated Voltage	125/250 VAC	125/250 VAC	125/250 VAC	250 VAC
Rated Current	0.05 - 6.3 A	0.08 - 3 A	0.08 - 3 A	1.6 - 10 A
Breaking Capacity	32 A - 10 kA	35 A - 10 kA	35 A - 10 kA	1500 A
Comment				
Characteristic	Quick-Acting F	Time-Lag T	Time-Lag T	Super-Quick-Acting FF
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Product picture				
Type	FSM 5x20	FTT 5x20	D1	D1TD
Rated Voltage	250/125 VAC/DC	250 VAC	32 - 220 VAC	32 - 220 VAC
Rated Current	0.315 - 10 A	0.063 - 4 A	0.02 - 20 A	0.031 - 15 A
Breaking Capacity	80 A - 1000 A	35 A	60 A - 300 A	40 A - 100 A
Comment				
Characteristic	Medium-Time-Lag M	Super-Time-Lag TT	Quick-Acting F	Super-Time-Lag TT
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

NON RESETTABLE FUSES



Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	5 x 20 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Product picture				
Type	172581	FSF 6.3x32	FST 6.3x32	SP 6.3x32
Rated Voltage	250/125 VAC/DC	250 VAC	250 VAC	250 VAC
Rated Current	0.16 - 6.3 A	0.1 - 10 A	0.02 - 20 A	0.5 - 20 A
Breaking Capacity	300 A - 1500 A	35 A - 100 A	35 A - 200 A	1000 A - 1500 A
Comment				
Characteristic	Quick-Acting F	Quick-Acting F	Time-Lag T	Quick-Acting F
Approvals	GAM T1 NNO			
Catalogue page	see WEB	see WEB	see WEB	see WEB

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Product picture				
Type	SPT 6.3x32	FSF 6.3x32 (UL)	FST 6.3x32 (UL)	SA 6.3x32
Rated Voltage	150 - 250 VAC	125/250 VAC	125/250 VAC	250 VAC
Rated Current	0.5 - 32 A	0.1 - 15 A	0.63 - 15 A	1.6 - 16 A
Breaking Capacity	1000 A - 1500 A	200 A - 10 kA	35 A - 10 kA	1500 A
Comment				
Characteristic	Time-Lag T	Quick-Acting F	Time-Lag T	Super-Quick-Acting FF
Approvals				
Catalogue page	xxx	xxx	xxx	see WEB

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Product picture				
Type	FTT 6.3x32	D8	D8M 125V	A12M 125V
Rated Voltage	250 VAC	125 - 220 VAC	125 VAC/DC	125 VAC/DC
Rated Current	0.1 - 4 A	0.04 - 20 A	0.16 - 6.3 A	10 A
Breaking Capacity	35 A	100 A - 500 A	5 kA	5 kA
Comment				
Characteristic	Super-Time-Lag TT	Quick-Acting F	Quick-Acting F	Quick-Acting F
Approvals		NNO	NNO	NNO
Catalogue page	see WEB	xxx	see WEB	see WEB

SELECTOR CHART

NON RESETTABLE FUSES



Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Product picture				
Type	D8TD	A12FA 250V	A12FA 380V	A12FA 500V
Rated Voltage	32 - 220 VAC	250 VAC	380 VAC	500 VAC
Rated Current	0.012 - 30 A	0.1 - 16 A	0.1 - 12.5 A	0.1 - 12.5 A
Breaking Capacity	100 A	200 kA	150 kA	10 kA - 150 kA
Comment				
Characteristic	Super-Time-Lag TT	Super-Quick-Acting FF	Super-Quick-Acting FF	Super-Quick-Acting FF
Approvals	NNO			
Catalogue page	see WEB	xxx	see WEB	xxx

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Product picture				
Type	A12FA 660V	A12BK	172600	172582
Rated Voltage	660 VAC	250 VAC	125 - 250 VAC	250/125 VAC/DC
Rated Current	0.1 - 2 A	0.125 - 25 A	0.125 - 20 A	0.16 - 20 A
Breaking Capacity	30 kA	35 A - 10 kA	35 A - 10 kA	1 kA - 10 kA
Comment				
Characteristic	Super-Quick-Acting FF	Quick-Acting F	Super-Time-Lag TT	Quick-Acting F
Approvals		NNO	NNO	NNO
Catalogue page	see WEB	xxx	xxx	xxx

Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	6.3 x 32 mm	6.3 x 32 mm	4.7 x 16 mm	10.3 x 38 mm
Product picture				
Type	D8STTD	A12TD	D0	A3BK
Rated Voltage	220/125 VAC/DC	220/125 VAC/DC	125 VAC	250 - 300 VAC
Rated Current	0.16 - 1.25 A	1.6 - 30 A	0.063 - 10 A	0.125 - 50 A
Breaking Capacity	50 A	100 A	35 A	10000 A
Comment				
Characteristic	Time-Lag T	Time-Lag T	Quick-Acting F	Quick-Acting F
Approvals	NNO	NNO	NNO	
Catalogue page	xxx	xxx	xxx	see WEB

SELECTOR CHART

NON RESETTABLE FUSES



Style	Miniature Fuse	Miniature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	10.3 x 38 mm	10.3 x 38 mm	10.3 x 38 mm	10.3 x 38 mm
Product picture				
Type	D20K	D20TD	A10 gG	A10 aM
Rated Voltage	250 VAC	125 - 250 VAC	400 - 500 VAC	400 - 500 VAC
Rated Current	0.4 - 30 A	0.2 - 50 A	0.5 - 32 A	0.16 - 32 A
Breaking Capacity	100 A - 4000 A	300 A - 500 A	120 kA	120 kA
Comment			IEC 60269-2	IEC 60269-2
Characteristic	Quick-Acting F	Super-Time-Lag TT		
Approvals	NNO	NNO		
Catalogue page	see WEB	xxx	xxx	xxx

Style	Special Fuse	Special Fuse	Special Fuse	Special Fuse
Dimensions	14 x 50 mm	14 x 50 mm	14.3 x 51 mm	14.3 x 51 mm
Product picture				
Type	MA	MC	MAM	MADM
Rated Voltage	500/250 VAC/DC	380 VDC	500 VAC	500/250 VAC/DC
Rated Current	0.5 - 40 A	0.5 - 50 A	1 - 40 A	1 - 25 A
Breaking Capacity	10 kA - 100 kA	85 kA	50 kA - 100 kA	100 kA
Comment				
Characteristic	Quick-Acting F	Quick-Acting F		
Approvals	GAM T1 NNO	NNO		NNO
Catalogue page	xxx	see WEB	see WEB	xxx

Style	Special Fuse
Dimensions	14 x 50 mm
Product picture	
Type	MAT
Rated Voltage	500/250 VAC/DC
Rated Current	1 - 20 A
Breaking Capacity	100 kA
Comment	
Characteristic	Time-Lag T
Approvals	GAM T1 NNO
Catalogue page	xxx

USF 0603



UL 248-14 · 32 VAC/DC · Super-Quick-Acting FF



Description

- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383
Time-Current Curves see page 207
Packaging Details see page 379

Weblinks

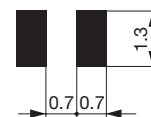
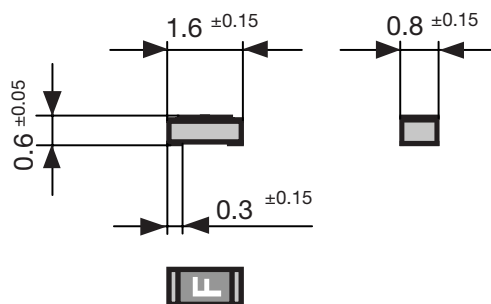
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	32 VAC/DC
Rated Current	0.5 - 5 A
Breaking Capacity	50 A
Characteristic	Super-Quick-Acting FF
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 90 °C
Climatic Category	55/090/21 acc. to IEC 60068-1
Material: Housing	Epoxyd Glass, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.0016 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Letter (see variants)

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length $\bar{H}$ 1.6 mm

Solder pads

Pre-Arcing Time

Rated Current I_n	1.0 x I_n min.	2.0 x I_n max.
0.5 A - 5 A	4 h	60 s

USF 0603

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Marking	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Cold Resistance typ [mΩ]	Melting I ² t 8.0 In typ [A ² s]	
3412.0113.xx	0.5	32	F	1)	120	101	157	0.02	● ●
3412.0114.xx	0.75	32	G	1)	120	100	90	0.04	● ●
3412.0115.xx	1	32	H	1)	120	98	75	0.06	● ●
3412.0117.xx	1.25	32	K	1)	120	73	44	0.14	● ●
3412.0119.xx	1.5	32	N	1)	120	70	27.5	0.25	● ●
3412.0120.xx	2	32	O	1)	120	75	23.5	0.4	● ●
3412.0121.xx	2.5	32	P	1)	120	80	18.6	0.58	● ●
3412.0122.xx	3	32	R	1)	120	85	16	0.8	● ●
3412.0123.xx	4	32	S	1)	120	80	12.5	1.1	● ●
3412.0124.xx	5	32	T	1)	120	70	10	1.5	● ●

1) 50 A @ 32 VAC , p.f. ≥ 0.95 / 50 A @ 32 VDC

Packaging Unit	.22 Blister Tape 18 cm Reel (1000 pcs.)
	.24 Blister Tape 18 cm Reel (5000 pcs.)
	.26 Blister Tape 33 cm Reel (15000 pcs.)

USF 1206



UL 248-14 · 32/63 VAC/DC · Super-Quick-Acting

**Description**

- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383
Time-Current Curves see page 208
Packaging Details see page 379

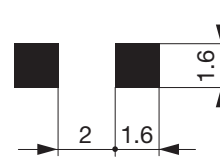
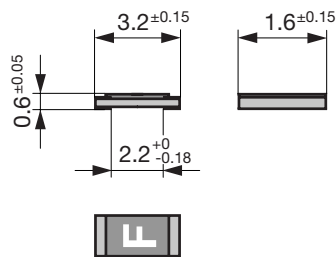
Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	32/63 VAC/DC
Rated Current	0.375 - 4 A
Breaking Capacity	50 A
Characteristic	Super-Quick-Acting FF
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 90 °C
Climatic Category	55/090/21 acc. to IEC 60068-1
Material: Housing	Epoxyd Glass, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.006 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Letter (see variants)

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

USF 1206**Dimensions**Length  3.2 mm

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.
0.375 A - 5 A	4 h	60 s

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Marking	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Cold Resistance typ [mΩ]	Melting I ² t 8.0 In typ [A ² s]		
3413.0112.xx	0.375	32	63	E	1)	200	125	315	0.01		
3413.0113.xx	0.5	32	63	F	1)	140	100	190	0.02	●	●
3413.0114.xx	0.75	32	63	G	1)	140	100	120	0.05	●	●
3413.0115.xx	1	32	63	H	1)	140	100	84	0.07	●	●
3413.0116.xx	1.25	32	63	J	1)	140	100	48	0.12	●	●
3413.0117.xx	1.5	32	63	K	1)	140	100	41.5	0.24	●	●
3413.0119.xx	2	32	63	N	1)	120	85	35	0.13	●	●
3413.0120.xx	2.5	32	63	O	1)	120	85	20.5	0.35	●	●
3413.0121.xx	3	32	63	P	1)	120	85	17	0.8	●	●
3413.0123.xx	4	32	63	S	1)	100	80	14	0.3	●	●

1) 50 A @ 32 VAC , p.f. ≥ 0.95 / 50 A @ 63 VDC

Packaging Unit

- .22 Blister Tape 18 cm Reel (1000 pcs.)
- .24 Blister Tape 18 cm Reel (5000 pcs.)
- .26 Blister Tape 33 cm Reel (15000 pcs.)

MGA



UL 248-14 · 125 VAC/DC · Super-Quick-Acting



Description

- ESA approved fuses on request (ESA/SCC GS No. 4008)
- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 200
- Packaging Details see page 379

Weblinks

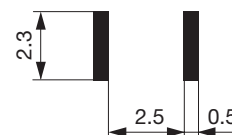
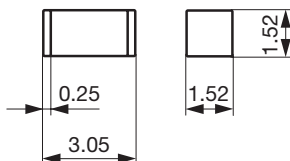
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

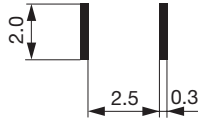
Rated Voltage	32 - 125 VAC/DC
Rated Current	0.2 - 5 A
Breaking Capacity	50 A
Characteristic	Super-Quick-Acting FF
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-50 °C to 150 °C
Climatic Category	50/150/21 acc. to IEC 60068-1
Material: Housing	Ceramic
Material: Terminals	Tin-Plated Nickel
Unit Weight	0.03 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	none

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  3.2 mm

Solder pads wave soldering

MGA

Solder pads reflow soldering

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.5 x In max.
0.2 A - 5 A	4 h	5 s

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Cold Resistance typ [mΩ]	Melting I ² t 4.0 In typ [A ² s]		
3410.0021.xx	0.2	125	1)	202	40	870	0.0013	●	●
3410.0022.xx	0.25	125	1)	176	44	663	0.0034	●	●
3410.0025.xx	0.375	125	1)	140	52	320	0.0037	●	●
3410.0027.xx	0.5	125	1)	126	68	210	0.0067	●	●
3410.0029.xx	0.75	125	1)	118	88	113	0.015	●	●
3410.0031.xx	1	125	1)	114	114	96	0.043	●	●
3410.0033.xx	1.5	125	1)	123	185	56	0.12	●	●
3410.0035.xx	2	125	1)	117	234	39	0.2	●	●
3410.0036.xx	2.5	125	1)	115	288	29	0.54	●	●
3410.0037.xx	3	125	1)	112	336	23	0.34	●	●
3410.0240.xx	4	63	2)	110	440	17	0.76	●	●
3410.0141.xx	5	32	3)	90	450	12	1.04	●	●

1) 50 A @ 125 VAC/DC

2) 50 A @ 63 VAC/DC

3) 50 A @ 32 VAC/DC

Packaging Unit

- .01 Blister Tape (100 pcs.)
- .02 Blister Tape 18 cm Reel (750 pcs.)
- .03 Blister Tape 18 cm Reel (3000 pcs.)
- .04 Blister Tape 33 cm Reel (10000 pcs.)

UMT 250



IEC 60127-4 · 250/125 VAC/DC · Time-Lag T



Description

- Directly solderable on printed circuit boards

Standards

- IEC 60127-4
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40013121
- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 207
- Packaging Details see page 379

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

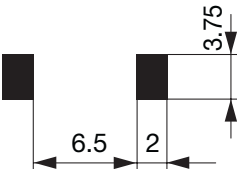
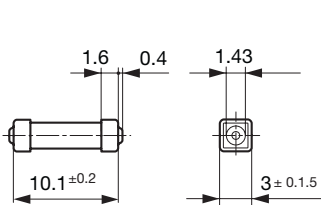
Technical Data

Rated Voltage	250/125 VAC/DC
Rated Current	0.315 - 4 A
Breaking Capacity	200 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Ceramic
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.23 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	  Current Rating, Voltage Rating, Characteristic, Breaking Capacity

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

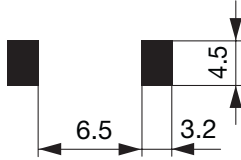
Dimensions

Length  10.1 mm



Solder pads reflow soldering

UMT 250



Solder pads wave soldering

Pre-Arcing Time

Rated Current In	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.315 A - 4 A	60 min	2 h	10 ms	100 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]								
3403.0161.xx	0.315	250	125	1)	750	343	500	0.27	●	●	●	●	●	●	●	●
3403.0162.xx	0.4	250	125	1)	700	290	500	0.4	●	●	●	●	●	●	●	●
3403.0163.xx	0.5	250	125	1)	600	257	500	0.54	●	●	●	●	●	●	●	●
3403.0164.xx	0.63	250	125	1)	500	216	500	1.1	●	●	●	●	●	●	●	●
3403.0165.xx	0.8	250	125	1)	400	190	500	1.4	●	●	●	●	●	●	●	●
3403.0166.xx	1	250	125	1)	300	164	500	2.8	●	●	●	●	●	●	●	●
3403.0167.xx	1.25	250	125	1)	300	138	1000	4.5	●	●	●	●	●	●	●	●
3403.0168.xx	1.6	250	125	1)	300	124	1000	6.9	●	●	●	●	●	●	●	●
3403.0169.xx	2	250	125	1)	300	106	1000	7.3	●	●	●	●	●	●	●	●
3403.0170.xx	2.5	250	125	1)	300	124	1200	7.5	●	●	●	●	●	●	●	●
3403.0171.xx	3.15	250	125	1)	300	99	1500	14	●	●	●	●	●	●	●	●
3403.0172.xx	4	250	125	1)	300	78	2000	26	●	●	●	●	●	●	●	●

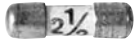
1) IEC: 200 A @ 250 VAC, p.f. ≥ 0.95 / 200 A @ 277 VAC

1) UL: 200 A @ 277 VAC / 100 A @ 125 VDC / 35 A @ 250 VDC

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .24 Blister Tape 33 cm Reel (2000 pcs.)

172876



172876

UL 248-14 · 125 VAC/DC · Quick-Acting F



Description

- High Breaking Capacity
- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

- General Product Information see page 383
- Time-Current Curves see page 189
- Packaging Details see page 379
- Corresponding Fuseholder 231786 see page 348;
- Corresponding Fuseholder 231787 see page 346

Weblinks

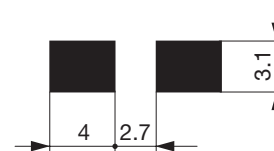
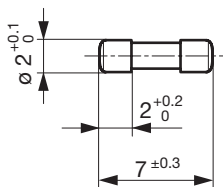
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	63 - 125 VAC/DC
Rated Current	0.063 - 15 A
Breaking Capacity	300 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 125 °C
Climatic Category	55/125/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Tin-Plated Copper Alloy
Unit Weight	0.07 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  7 mm

172876

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	2.75 x In max.	4.0 x In max.	10.0 x In max.
0.063 A - 0.75 A	4 h	5 s	300 ms	30 ms	5 ms
1 A - 15 A	4 h	10 s	1 s	60 ms	5 ms

172876

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7010.9750.xx	172876	0.063	125	125	1)	590	37	0.00022	●
7010.9760.xx	172876	0.125	125	125	1)	640	80	0.0024	●
7010.9770.xx	172876	0.25	125	125	1)	275	69	0.0061	●
7010.9780.xx	172876	0.375	125	125	1)	215	81	0.012	●
7010.9790.xx	172876	0.5	125	125	1)	205	103	0.046	●
7010.9800.xx	172876	0.75	125	125	1)	190	143	0.09	●
7010.9810.xx	172876	1	125	125	1)	180	180	0.11	●
7010.9820.xx	172876	1.5	125	125	1)	185	278	0.25	●
7010.9830.xx	172876	2	125	125	1)	160	320	0.72	●
7010.9840.xx	172876	2.5	125	125	1)	160	400	0.91	●
7010.9850.xx	172876	3	125	125	1)	155	465	1.3	●
7010.9860.xx	172876	3.5	125	125	1)	145	510	1.7	●
7010.9870.xx	172876	4	125	125	1)	140	560	2.6	●
7010.9880.xx	172876	5	125	63	2)	125	625	4	●
7010.9890.xx	172876	7	125	63	2)	120	840	8.5	●
7010.9892.xx	172876	10	65	65	3)	110	1100	31	●
7010.9894.xx	172876	12	65	65	3)	115	1380	48	●
7010.9896.xx	172876	15	65	65	3)	105	1575	92	●

1) 300 A @ 125 VAC, p.f. ≥ 0.95 / 300 A @ 125 VDC

2) 300 A @ 63 VAC, p.f. ≥ 0.95 / 300 A @ 125 VDC

3) 300 A @ 65 VAC, p.f. ≥ 0.95 / 300 A @ 65 VDC

Packaging Unit

.63 Plastic Bag (100 pcs.)

.57 Blister Tape 18 cm Reel (1500 pcs.)

.59 Blister Tape 33 cm Reel (5000 pcs.)

MKF



MKF

UL 248-14 · 125 VAC/DC · Quick-Acting F



Description

- High Breaking Capacity
- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

General Product Information see page 383
 Time-Current Curves see page 200
 Packaging Details see page 379

Weblinks

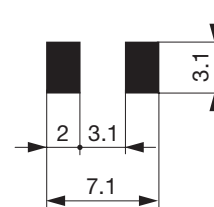
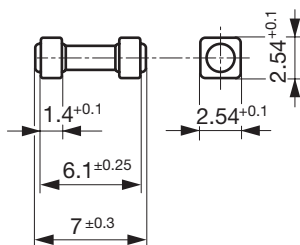
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	63 - 125 VAC/DC
Rated Current	0.063 - 15 A
Breaking Capacity	300 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 85 °C
Climatic Category	55/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Tin-Plated Copper Alloy
Unit Weight	0.15 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  7 mm

MKF

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	2.75 x In max.	4.0 x In max.	10.0 x In max.
0.063 A - 0.75 A	4 h	5 s	300 ms	30 ms	5 ms
1 A - 15 A	4 h	10 s	1 s	60 ms	5 ms

MKF

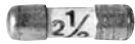
Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7010.9900.xx	MKF	0.063	125	125	1)	505	32	0.00022	●
7010.9901.xx	MKF	0.125	125	125	1)	590	74	0.0024	●
7010.9902.xx	MKF	0.25	125	125	1)	235	59	0.0061	●
7010.9903.xx	MKF	0.375	125	125	1)	205	77	0.012	●
7010.9904.xx	MKF	0.5	125	125	1)	190	95	0.046	●
7010.9905.xx	MKF	0.75	125	125	1)	170	128	0.09	●
7010.9906.xx	MKF	1	125	125	1)	155	155	0.11	●
7010.9907.xx	MKF	1.5	125	125	1)	160	240	0.25	●
7010.9908.xx	MKF	2	125	125	1)	150	300	0.72	●
7010.9909.xx	MKF	2.5	125	125	1)	145	363	0.91	●
7010.9910.xx	MKF	3	125	125	1)	145	435	1.3	●
7010.9911.xx	MKF	3.5	125	125	1)	140	490	1.7	●
7010.9912.xx	MKF	4	125	125	1)	135	540	2.6	●
7010.9913.xx	MKF	5	125	63	2)	125	625	4	●
7010.9914.xx	MKF	7	125	63	2)	125	875	8.5	●
7010.9915.xx	MKF	10	65	65	3)	110	1100	31	●
7010.9916.xx	MKF	12	65	65	3)	110	1320	48	●
7010.9917.xx	MKF	15	65	65	3)	100	1500	92	●

Packaging Unit

- .03 Plastic Bag (100 pcs.)
- .55 Blister Tape 18 cm Reel (500 pcs.)
- .57 Blister Tape 18 cm Reel (1500 pcs.)

MSB



MSB

IEC 60127-4 · 125 VAC/DC · Time-Lag T



Description

- Low Breaking Capacity
- Directly solderable on printed circuit boards

Standards

- IEC 60127-4/2
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

- General Product Information see page 383
- Time-Current Curves see page 201
- Packaging Details see page 379
- Corresponding Fuseholder 231786 see page 348;
- Corresponding Fuseholder 231787 see page 346

Weblinks

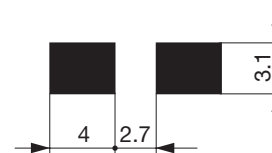
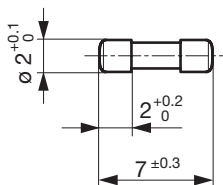
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	65 - 125 VAC/DC
Rated Current	0.75 - 15 A
Breaking Capacity	50 A - 150 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 85 °C
Climatic Category	55/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Tin-Plated Copper Alloy
Unit Weight	0.07 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  7 mm

MSB

Solder pads

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.75 A - 1.5 A	-	60 min	120 s	5 ms	100 ms
2 A - 8 A	-	60 min	120 s	10 ms	100 ms
10 A - 15 A	60 min	-	120 s	10 ms	100 ms

MSB

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Power Dissipation 1.25 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7010.9960.xx	MSB	0.75	125	1)	106		145	0.4	●
7010.9961.xx	MSB	1	125	1)	97		179	0.79	●
7010.9962.xx	MSB	1.5	125	1)	91		240	2.1	●
7010.9963.xx	MSB	2	125	1)	88		315	4.1	●
7010.9964.xx	MSB	2.5	125	1)	84		375	6.9	●
7010.9965.xx	MSB	3.15	125	1)	80		450	12	●
7010.9966.xx	MSB	3.5	125	1)	79		490	15	●
7010.9967.xx	MSB	4	125	1)	76		545	21	●
7010.9968.xx	MSB	5	125	1)	87		620	29	●
7010.9969.xx	MSB	6.3	125	2)	85		850	51	●
7010.9970.xx	MSB	8	65	3)	83		1200	83	●
7010.9971.xx	MSB	10	65	3)	81	1100		140	●
7010.9972.xx	MSB	12	65	3)	80	1150		215	●
7010.9973.xx	MSB	15	65	3)	78	1750		360	●

1) 50 A @ 125 VAC/DC

2) 63 A @ 125 VAC/DC

3) 150 A @ 65 VAC/DC

Packaging Unit

.63 Plastic Bag (100 pcs.)

.57 Blister Tape 18 cm Reel (1500 pcs.)

.59 Blister Tape 33 cm Reel (5000 pcs.)

MKT



MKT

IEC 60127-4 · 125 VAC/DC · Time-Lag T



Description

- Low Breaking Capacity
- Directly solderable on printed circuit boards

Standards

- IEC 60127-4/2
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

General Product Information see page 383
 Time-Current Curves see page 200
 Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

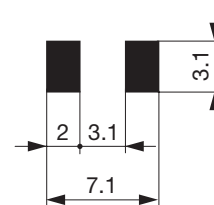
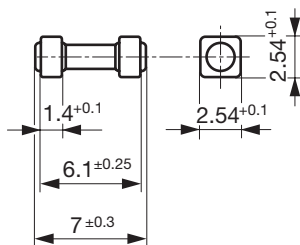
Technical Data

Rated Voltage	65 - 125 VAC/DC
Rated Current	2 - 15 A
Breaking Capacity	50 A - 150 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 85 °C
Climatic Category	55/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Tin-Plated Copper Alloy
Unit Weight	0.15 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length 7 mm



MKT

Solder pads

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
2 A - 8 A	-	60 min	120 s	10 ms	100 ms
10 A - 15 A	60 min	-	120 s	10 ms	100 ms

NON RESETTABLE FUSES



MKT

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Power Dissipation 1.25 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7010.9513.xx	MKT	2	125	1)	85		300	4.1	●
7010.9514.xx	MKT	2.5	125	1)	82		360	6.9	●
7010.9515.xx	MKT	3.15	125	1)	79		440	12	●
7010.9516.xx	MKT	3.5	125	1)	78		485	15	●
7010.9517.xx	MKT	4	125	1)	76		540	21	●
7010.9518.xx	MKT	5	125	1)	87		600	29	●
7010.9519.xx	MKT	6.3	125	2)	85		810	51	●
7010.9520.xx	MKT	8	65	3)	81		1100	83	●
7010.9521.xx	MKT	10	65	3)	79	1000		140	●
7010.9522.xx	MKT	12	65	3)	77	1050		215	●
7010.9523.xx	MKT	15	65	3)	75	1700		360	●

Packaging Unit	.03 Plastic Bag (100 pcs.)
	.55 Blister Tape 18 cm Reel (500 pcs.)
	.57 Blister Tape 18 cm Reel (1500 pcs.)

OMF 63



OMF 63

UL 248-14 · 63 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards
- OMK 63 = OMF 63 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 203
- Packaging Details see page 379
- Corresponding Fuseholder OMH 125 see page 350

Weblinks

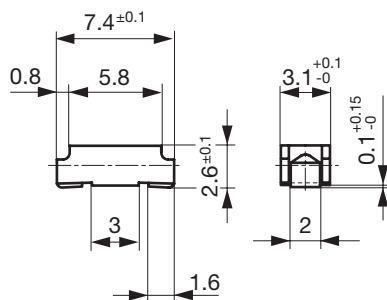
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	63 VAC/DC
Rated Current	0.063 - 10 A
Breaking Capacity	50 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  7.4 mm

OMF 63

Solder pads

OMF 63

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	4.0 x In max.
0.063 A - 5 A	4 h	1 s	10 ms
6.3 A - 8 A	4 h	5 s	50 ms
10 A	4 h	20 s	60 ms

Variants

Order Number	Type	Fuse	Holder	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissi- pation 1.0 In typ [mW]	Melting Pt 4.0 In typ [A²s]	  
3402.0003.xx	OMF 63	●		0.063	63	1)	2550	160	0.000011	● ● ●
3402.0004.xx	OMF 63	●		0.1	63	1)	1770	180	0.00067	● ● ●
3402.0049.xx	OMF 63	●		0.125	63	1)	1770	220	0.00011	● ● ●
3402.0005.xx	OMF 63	●		0.16	63	1)	1770	270	0.00018	● ● ●
3402.0006.xx	OMF 63	●		0.25	63	1)	990	250	0.00058	● ● ●
3402.0043.xx	OMF 63	●		0.35	63	1)	990	350	0.00076	● ● ●
3402.0044.xx	OMF 63	●		0.375	63	1)	990	370	0.0013	● ● ●
3402.0007.xx	OMF 63	●		0.4	63	1)	960	380	0.0016	● ● ●
3402.0045.xx	OMF 63	●		0.5	63	1)	350	180	0.0016	● ● ●
3402.0008.xx	OMF 63	●		0.63	63	1)	290	180	0.002	● ● ●
3402.0046.xx	OMF 63	●		0.75	63	1)	260	200	0.0031	● ● ●
3402.0009.xx	OMF 63	●		1	63	1)	220	220	0.0086	● ● ●
3402.0010.xx	OMF 63	●		1.25	63	1)	220	280	0.014	● ● ●
3402.0047.xx	OMF 63	●		1.5	63	1)	200	300	0.024	● ● ●
3402.0011.xx	OMF 63	●		1.6	63	1)	200	320	0.027	● ● ●
3402.0012.xx	OMF 63	●		2	63	1)	200	400	0.044	● ● ●
3402.0013.xx	OMF 63	●		2.5	63	1)	190	480	0.097	● ● ●
3402.0014.xx	OMF 63	●		3	63	1)	190	570	1.3	● ● ●
3402.0048.xx	OMF 63	●		3.15	63	1)	190	600	1.2	● ● ●
3402.0015.xx	OMF 63	●		3.5	63	1)	140	490	1.6	● ● ●
3402.0016.xx	OMF 63	●		4	63	1)	140	560	2.1	● ● ●
3402.0017.xx	OMF 63	●		5	63	1)	140	700	2.9	● ● ●
3402.0018.xx	OMF 63	●		6.3	63	1)	110	690	14	● ● ●
3402.0019.xx	OMF 63	●		7	63	1)	105	740	16	● ● ●
3402.0020.xx	OMF 63	●		8	63	1)	100	800	20	● ● ●
3402.0040.xx	OMF 63	●		10	63	1)	80	800	54	● ● ●

1) 50 A @ 63 VAC/DC

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 18 cm Reel (750 pcs.)
- .24 Blister Tape 33 cm Reel (3000 pcs.)

OMK 63



OMK 63

UL 248-14 · 63 VAC/DC · Quick-Acting F



CCC

Description

- Directly solderable on printed circuit boards
- OMK 63 = OMF 63 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

References

General Product Information see page 383
 Time-Current Curves see page 203
 Packaging Details see page 379

Weblinks

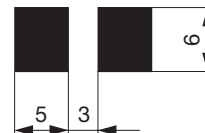
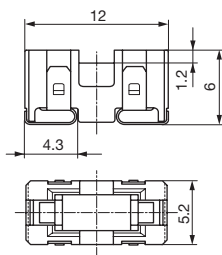
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	63 VAC/DC
Rated Current	0.063 - 5 A
Breaking Capacity	50 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.48 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ type, Current Rating, Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  12 mm

OMK 63

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	4.0 x In max.
0.063 A - 5 A	4 h	1 s	10 ms

OMK 63

Variants

Order Number	Type	Fuse	Holder	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 4.0 In typ [A ² s]	  CCC
3422.0003.xx	OMK 63	●	●	0.063	63	1)	2550	160	0.00011	●
3422.0004.xx	OMK 63	●	●	0.1	63	1)	1770	180	0.0067	●
3422.0049.xx	OMK 63	●	●	0.125	63	1)	1770	220	0.0011	●
3422.0005.xx	OMK 63	●	●	0.16	63	1)	1700	270	0.0018	●
3422.0006.xx	OMK 63	●	●	0.25	63	1)	990	250	0.0058	●
3422.0043.xx	OMK 63	●	●	0.35	63	1)	990	350	0.0076	●
3422.0044.xx	OMK 63	●	●	0.375	63	1)	990	370	0.013	●
3422.0007.xx	OMK 63	●	●	0.4	63	1)	960	380	0.016	●
3422.0045.xx	OMK 63	●	●	0.5	63	1)	350	180	0.01	●
3422.0008.xx	OMK 63	●	●	0.63	63	1)	290	180	0.02	●
3422.0046.xx	OMK 63	●	●	0.75	63	1)	260	200	0.031	●
3422.0009.xx	OMK 63	●	●	1	63	1)	220	220	0.078	●
3422.0010.xx	OMK 63	●	●	1.25	63	1)	220	280	0.14	●
3422.0047.xx	OMK 63	●	●	1.5	63	1)	200	300	0.24	●
3422.0011.xx	OMK 63	●	●	1.6	63	1)	200	320	0.27	●
3422.0012.xx	OMK 63	●	●	2	63	1)	200	400	0.44	●
3422.0013.xx	OMK 63	●	●	2.5	63	1)	190	480	0.97	●
3422.0014.xx	OMK 63	●	●	3	63	1)	190	570	1.3	●
3422.0048.xx	OMK 63	●	●	3.15	63	1)	190	600	1.2	●
3422.0015.xx	OMK 63	●	●	3.5	63	1)	140	490	1.6	●
3422.0016.xx	OMK 63	●	●	4	63	1)	140	560	2.1	●
3422.0017.xx	OMK 63	●	●	5	63	1)	140	700	2.9	●

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .23 Blister Tape 33 cm Reel (1500 pcs.)

OMF 125



OMF 125

UL 248-14 · 125 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards
- OMK 125 = OMF 125 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

- General Product Information see page 383
 Time-Current Curves see page 202
 Packaging Details see page 379
 Corresponding Fuseholder OMH 125 see page 350

Weblinks

- Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

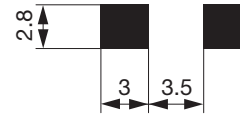
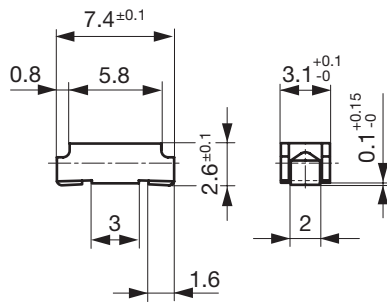
Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.063 - 10 A
Breaking Capacity	100 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.08 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

OMF 125

Dimensions

Length  7.4 mm

OMF 125

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	4.0 x In max.
6.3 A - 8 A	4 h	5 s	50 ms
10 A	4 h	20 s	60 ms

Variants

Order Number	Type	Fuse	Holder	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 4.0 In typ [A ² s]	  
3404.0003.xx	OMF 125	●		0.063	125	1)	2550	160	0.00011	● ●
3404.0004.xx	OMF 125	●		0.1	125	1)	1770	180	0.0067	● ●
3404.0049.xx	OMF 125	●		0.125	125	1)	1770	220	0.0011	● ●
3404.0005.xx	OMF 125	●		0.16	125	1)	1700	270	0.0018	● ●
3404.0006.xx	OMF 125	●		0.25	125	1)	990	250	0.0058	● ●
3404.0043.xx	OMF 125	●		0.35	125	1)	990	350	0.0076	● ●
3404.0044.xx	OMF 125	●		0.375	125	1)	990	370	0.013	● ●
3404.0007.xx	OMF 125	●		0.4	125	1)	960	380	0.016	● ●
3404.0045.xx	OMF 125	●		0.5	125	1)	350	150	0.01	● ●
3404.0008.xx	OMF 125	●		0.63	125	1)	290	180	0.02	● ●
3404.0046.xx	OMF 125	●		0.75	125	1)	260	200	0.031	● ●
3404.0009.xx	OMF 125	●		1	125	1)	220	220	0.078	● ●
3404.0010.xx	OMF 125	●		1.25	125	1)	220	280	0.14	● ●
3404.0047.xx	OMF 125	●		1.5	125	1)	200	300	0.24	● ●
3404.0011.xx	OMF 125	●		1.6	125	1)	200	320	0.27	● ●
3404.0012.xx	OMF 125	●		2	125	1)	200	400	0.44	● ●
3404.0013.xx	OMF 125	●		2.5	125	1)	190	480	0.97	● ●
3404.0014.xx	OMF 125	●		3	125	1)	190	570	1.3	● ●
3404.0048.xx	OMF 125	●		3.15	125	1)	190	600	1.2	● ●
3404.0015.xx	OMF 125	●		3.5	125	1)	140	490	1.6	● ●
3404.0016.xx	OMF 125	●		4	125	1)	140	560	2.1	● ●
3404.0017.xx	OMF 125	●		5	125	1)	140	700	2.9	● ●
3404.0018.xx	OMF 125	●		6.3	125	1)	110	690	14	● ●
3404.0019.xx	OMF 125	●		7	125	1)	105	740	16	● ●
3404.0020.xx	OMF 125	●		8	125	1)	100	800	20	● ●
3404.0021.xx	OMF 125	●		10	125	1)	80	800	54	● ●

1) 100 A @ 125 VAC/DC

OMF 125

Packaging Unit	.11 Plastic Bag (100 pcs.)
	.22 Blister Tape 18 cm Reel (750 pcs.)
	.24 Blister Tape 33 cm Reel (3000 pcs.)

OMK 125



OMK 125

UL 248-14 · 125 VAC/DC · Quick-Acting F



CCC

Description

- Directly solderable on printed circuit boards
- OMK 125 = OMF 125 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

References

General Product Information see page 383
 Time-Current Curves see page 203
 Packaging Details see page 379

Weblinks

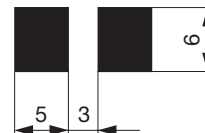
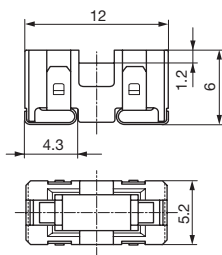
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.063 - 5 A
Breaking Capacity	100 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.47 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ type, Current Rating, Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  12 mm

OMK 125

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	4.0 x In max.
0.063 A - 5 A	4 h	1 s	10 ms

OMK 125

Variants

Order Number	Type	Fuse	Holder	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 4.0 In typ [A ² s]	  
3404.2303.xx	OMK 125	●	●	0.063	125	1)	2550	160	0.00011	●
3404.2304.xx	OMK 125	●	●	0.1	125	1)	1770	180	0.0067	●
3404.2349.xx	OMK 125	●	●	0.125	125	1)	1770	220	0.0011	●
3404.2305.xx	OMK 125	●	●	0.16	125	1)	1700	270	0.0018	●
3404.2306.xx	OMK 125	●	●	0.25	125	1)	990	250	0.0058	●
3404.2343.xx	OMK 125	●	●	0.35	125	1)	990	350	0.0076	●
3404.2344.xx	OMK 125	●	●	0.375	125	1)	990	370	0.013	●
3404.2307.xx	OMK 125	●	●	0.4	125	1)	960	380	0.016	●
3404.2345.xx	OMK 125	●	●	0.5	125	1)	350	150	0.01	●
3404.2308.xx	OMK 125	●	●	0.63	125	1)	290	180	0.02	●
3404.2346.xx	OMK 125	●	●	0.75	125	1)	260	200	0.031	●
3404.2309.xx	OMK 125	●	●	1	125	1)	220	220	0.078	●
3404.2310.xx	OMK 125	●	●	1.25	125	1)	220	280	0.14	●
3404.2347.xx	OMK 125	●	●	1.5	125	1)	200	300	0.24	●
3404.2311.xx	OMK 125	●	●	1.6	125	1)	200	320	0.27	●
3404.2312.xx	OMK 125	●	●	2	125	1)	200	400	0.44	●
3404.2313.xx	OMK 125	●	●	2.5	125	1)	190	480	0.97	●
3404.2314.xx	OMK 125	●	●	3	125	1)	190	570	1.3	●
3404.2348.xx	OMK 125	●	●	3.15	125	1)	190	600	1.2	●
3404.2315.xx	OMK 125	●	●	3.5	125	1)	140	490	1.6	●
3404.2316.xx	OMK 125	●	●	4	125	1)	140	560	2.1	●
3404.2317.xx	OMK 125	●	●	5	125	1)	140	700	2.9	●

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 18 cm Reel (750 pcs.)
- .23 Blister Tape 33 cm Reel (1500 pcs.)

OMT 125



OMT 125

UL 248-14 · 125 VAC/DC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- OMZ 125 = OMT 125 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 204
- Packaging Details see page 379
- Corresponding Fuseholder OMH 125 see page 350

Weblinks

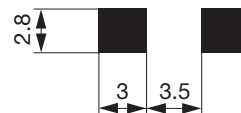
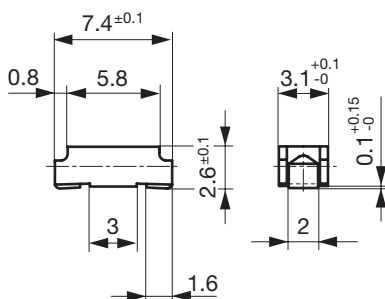
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.25 - 5 A
Breaking Capacity	100 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.08 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  7.4 mm

OMT 125

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	8.0 x In min.	8.0 x In max.
0.25 A - 0.375 A	4 h	60 s	2 ms	30 ms
0.5 A - 6.3 A	4 h	60 s	5 ms	100 ms

OMT 125

Variants

Order Number	Type	Fuse	Holder	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissi- pation 1.0 In typ [mW]	Melting I ² t 8.0 In typ [A ² s]		
3404.0110.xx	OMT 125	●		0.25	125	1)	142	35.5	0.02	●	●
3404.0111.xx	OMT 125	●		0.375	125	1)	123	46.1	0.054	●	●
3404.0112.xx	OMT 125	●		0.5	125	1)	95	47.5	0.16	●	●
3404.0113.xx	OMT 125	●		0.75	125	1)	92	69	0.43	●	●
3404.0114.xx	OMT 125	●		1	125	1)	88	88	0.77	●	●
3404.0115.xx	OMT 125	●		1.5	125	1)	82	123	1.73	●	●
3404.0116.xx	OMT 125	●		2	125	1)	75	150	3.58	●	●
3404.0117.xx	OMT 125	●		2.5	125	1)	137	343	5.6	●	●
3404.0118.xx	OMT 125	●		3	125	1)	128	384	8.06	●	●
3404.0119.xx	OMT 125	●		3.5	125	1)	119	417	11.76	●	●
3404.0120.xx	OMT 125	●		4	125	1)	77	308	12.3	●	●
3404.0121.xx	OMT 125	●		5	125	1)	79	395	20.8	●	●
3404.0122.xx	OMT 125	●		6.3	125	1)	82	516	25.4		

1) 100 A @ 125 VAC , p.f. ≥ 0.95 / 100 A @ 125 VDC

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 18 cm Reel (750 pcs.)
- .24 Blister Tape 33 cm Reel (3000 pcs.)

OMZ 125



OMZ 125

UL 248-14 · 125 VAC/DC · Time-Lag T



CCC

Description

- Directly solderable on printed circuit boards
- OMZ 125 = OMT 125 + OMH 125

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

References

General Product Information see page 383
 Time-Current Curves see page 204
 Packaging Details see page 379

Weblinks

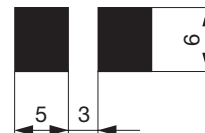
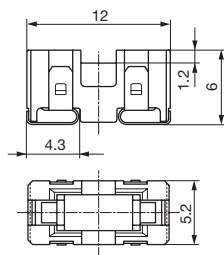
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.25 - 5 A
Breaking Capacity	100 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.47 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td

Dimensions

Length  12 mm

OMZ 125

Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	8.0 x In min.	8.0 x In max.
0.25 A - 0.375 A	4 h	60 s	2 ms	10 ms
0.5 A - 6.3 A	4 h	60 s	5 ms	100 ms

OMZ 125

Variants

Order Number	Type	Fuse	Holder	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissi- pation 1.0 In typ [mW]	Melting I ² t 8.0 In typ [A ² s]	
3404.2320.xx	OMZ 125	●	●	0.25	125	1)	142	35.5	0.02	●
3404.2321.xx	OMZ 125	●	●	0.375	125	1)	123	46.1	0.054	●
3404.2322.xx	OMZ 125	●	●	0.5	125	1)	95	47.5	0.16	●
3404.2323.xx	OMZ 125	●	●	0.75	125	1)	92	69	0.43	●
3404.2324.xx	OMZ 125	●	●	1	125	1)	88	88	0.77	●
3404.2325.xx	OMZ 125	●	●	1.5	125	1)	82	123	1.73	●
3404.2326.xx	OMZ 125	●	●	2	125	1)	75	150	3.58	●
3404.2327.xx	OMZ 125	●	●	2.5	125	1)	137	343	5.6	●
3404.2328.xx	OMZ 125	●	●	3	125	1)	128	384	8.06	●
3404.2329.xx	OMZ 125	●	●	3.5	125	1)	119	417	11.76	●
3404.2330.xx	OMZ 125	●	●	4	125	1)	77	308	12.3	●
3404.2331.xx	OMZ 125	●	●	5	125	1)	79	395	20.8	●

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 18 cm Reel (750 pcs.)
- .23 Blister Tape 33 cm Reel (1500 pcs.)

OMF 250



IEC 60127-4 · 250 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards

Standards

- IEC 60127-4/2
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 106328
- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 202
- Packaging Details see page 379

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

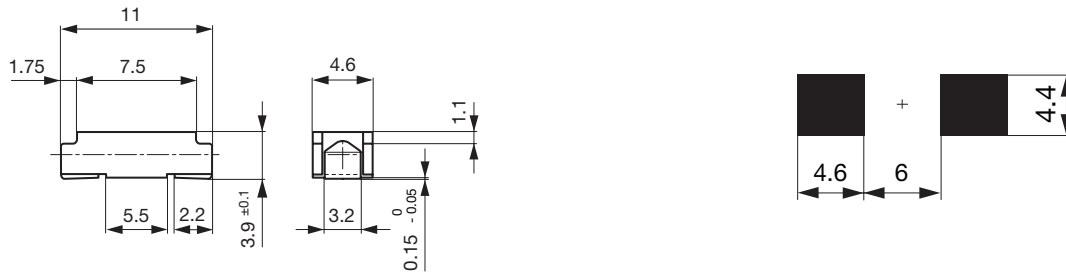
Technical Data

Rated Voltage	250 VAC/DC
Rated Current	0.25 - 4 A
Breaking Capacity	100 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.36 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

OMF 250

Dimensions

Length  11 mm

Solder pads

Pre-Arcing Time

Rated Current In	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.25 A - 4 A	60 min	120 s	1 ms	10 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting I²t 10.0 In typ [A²s]			CCC
3403.0010.xx	0.25	250	1)		1100	480	0.012	●	●	●
3403.0011.xx	0.315	250	1)		1000	430	0.019	●	●	●
3403.0012.xx	0.4	250	1)	700	230	190	0.02	●	●	●
3403.0013.xx	0.5	250	1)	600	190	190	0.03	●	●	●
3403.0014.xx	0.63	250	1)	500	170	230	0.07	●	●	●
3403.0015.xx	0.8	250	1)	400	200	330	0.12	●	●	●
3403.0016.xx	1	250	1)	300	170	390	0.23	●	●	●
3403.0017.xx	1.25	250	1)	300	150	390	0.47	●	●	●
3403.0018.xx	1.6	250	1)	300	150	490	0.84	●	●	●
3403.0019.xx	2	250	1)	300	140	600	1.4	●	●	●
3403.0020.xx	2.5	250	1)	300	130	670	2.6	●	●	●
3403.0021.xx	3.15	250	1)	300	130	870	4.8	●	●	●
3403.0022.xx	4	250	1)	300	100	950	8.6	●	●	●

1) 100 A @ 250 VAC/DC

Packaging Unit

.11 Plastic Bag (100 pcs.)
 .24 Blister Tape 33 cm Reel (2000 pcs.)

OMT



UL 248-14 · 250 VAC · Time-Lag T

**Description**

- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383

Time-Current Curves see page 203

Packaging Details see page 379

Weblinks

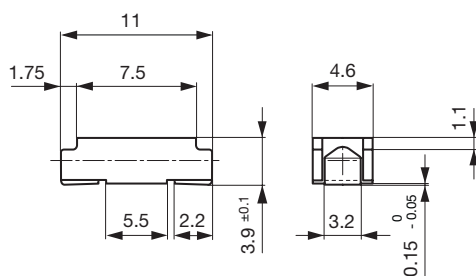
Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

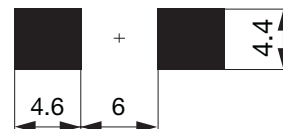
Technical Data

Rated Voltage	125 - 250 VAC
Rated Current	0.75 - 5 A
Breaking Capacity	50 A - 100 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.36 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

DimensionsLength  11 mm

OMT



Solder pads

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In min.	2.0 x In max.	3.0 x In min.	3.0 x In max.	8.0 x In min.	8.0 x In max.
0.75 A - 5 A	4 h	1 s	60 s	100 ms	3 s	5 ms	50 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 4.0 In typ [mW]	Melting I ² t 8.0 In typ [A ² s]	CCC		
3403.0129.xx	0.75	250	1)	107	80	0.03	●	●	●
3403.0116.xx	1	250	1)	92	92	0.07	●	●	●
3403.0117.xx	1.25	250	1)	89	111	1	●	●	●
3403.0130.xx	1.5	250	2)	74	111	2	●	●	●
3403.0119.xx	2	250	2)	69	138	4	●	●	●
3403.0120.xx	2.5	125	3)	68	170	7	●	●	●
3403.0131.xx	3	125	3)	62	186	12	●	●	●
3403.0132.xx	3.5	125	3)	60	210	19	●	●	●
3403.0122.xx	4	125	3)	60	240	23	●	●	●
3403.0123.xx	5	125	3)	57	285	37	●	●	●

1) 100 A @ 250 VAC

2) 50 A @ 250 VAC

3) 100 A @ 125 VAC

Packaging Unit

.11 Plastic Bag (100 pcs.)

.24 Blister Tape 33 cm Reel (2000 pcs.)

SMD-FST



IEC 60127-2 · 250 VAC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- IEC Standard Fuse
- L = Low Breaking Capacity

Standards

- IEC 60127-2/3
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40011522
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 205
 Packaging Details see page 379

Weblinks

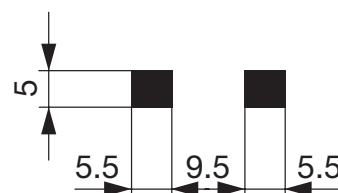
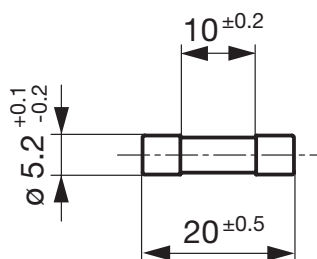
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.05 - 20 A
Breaking Capacity	35 A - 125 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/21 acc. to IEC 60068-1
Material: Housing	Glass
Material: Terminals	Gold-Plated Copper Alloy
Unit Weight	1.05 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  5 mm

Solder pads

SMD-FST**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.05 A - 0.1 A	60 min	120 s	300 ms	10 s	40 ms	3 s	10 ms	300 ms
0.125 A - 6.3 A	60 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms
8 A - 10 A	30 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms
12.5 A - 20 A	15 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting It 10.0 In typ [A²s]		
0034.5604.xx	0.05	250	1)	3500	950	0.125	0.0363	●	●
0034.5605.xx	0.063	250	1)	3000	1300	0.2	0.0401	●	●
0034.5606.xx	0.08	250	1)	3000	1100	0.3	0.057	●	●
0034.5607.xx	0.1	250	1)	2500	565	0.155	0.107	●	●
0034.5608.xx	0.125	250	1)	2000	400	0.2	0.064	●	●
0034.5609.xx	0.16	250	1)	1900	415	0.185	0.23	●	●
0034.5610.xx	0.2	250	1)	1500	270	0.2	0.256	●	●
0034.5611.xx	0.25	250	1)	1300	210	0.2	0.238	●	●
0034.5612.xx	0.315	250	1)	1100	170	0.2	0.544	●	●
0034.5613.xx	0.4	250	1)	1000	150	0.2	0.768	●	●
0034.5614.xx	0.5	250	1)	900	160	0.2	3	●	●
0034.5615.xx	0.63	250	1)	300	160	0.2	4.35	●	●
0034.5616.xx	0.8	250	1)	250	120	0.2	3.85	●	●
0034.5617.xx	1	250	1)	150	60	0.2	3.3	●	●
0034.5618.xx	1.25	250	1)	150	60	0.3	5.5	●	●
0034.5619.xx	1.6	250	1)	150	60	0.3	10.5	●	●
0034.5620.xx	2	250	1)	150	60	0.3	16	●	●
0034.5621.xx	2.5	250	1)	120	60	0.4	21.9	●	●
0034.5622.xx	3.15	250	1)	100	60	0.5	47	●	●
0034.5623.xx	4	250	2)	100	60	0.8	68.3	●	●
0034.5624.xx	5	250	2)	100	60	0.9	102	●	●
0034.5625.xx	6.3	250	2)	100	60	1	190	●	●
0034.5626.xx	8	250	2)	100	60	1.3	275	●	●
0034.5627.xx	10	250	2)	100	60	1.3	520	●	●
0034.5628.xx	12.5	250	3)		60	2.5	750	●	●
0034.5629.xx	16	250	3)		60	3.3	1638	●	●
0034.5630.xx	20	250	3)		60	4.2	3057	●	●

- 1) 35 A @ 250 VAC
2) 10 In @ 250 VAC
3) 125 A @ 250 VAC

Packaging Unit

- .11 Plastic Bag (100 pcs.)
.22 Blister Tape 38 cm Reel (2000 pcs.)

SMD-SPT



IEC 60127-2 · 250 VAC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- IEC Standard Fuse
- H = High Breaking Capacity

Standards

- IEC 60127-2/5
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40010881
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 205
 Packaging Details see page 379

Weblinks

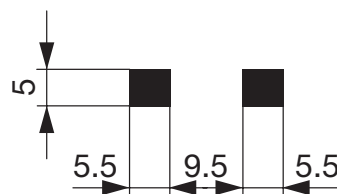
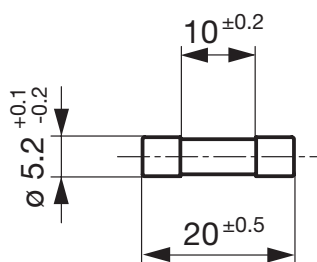
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	1 - 16 A
Breaking Capacity	500 A - 1500 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/21 acc. to IEC 60068-1
Material: Housing	Ceramic
Material: Terminals	Gold-Plated Copper Alloy
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Resistance to Solvents	MIL-STD-202, Method 215A

Dimensions

Length  5 mm

Solder pads

SMD-SPT**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
1 A - 3.15 A	60 min	30 min	750 ms	80 s	95 ms	5 s	10 ms	150 ms
4 A - 6.3 A	60 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
8 A - 10 A	30 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
12.5 A - 16 A	15 min	30 min	750 ms	80 s	150 ms	5 s	20 ms	150 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting It 10.0 In typ [A²s]		
0001.2704.xx	1	250	1)	250	180	0.5	1.1	●	●
0001.2705.xx	1.25	250	1)	250	150	0.5	1.86	●	●
0001.2706.xx	1.6	250	1)	200	130	0.5	4.35	●	●
0001.2707.xx	2	250	1)	190	120	0.6	9.2	●	●
0001.2708.xx	2.5	250	1)	180	100	0.6	11.7	●	●
0001.2709.xx	3.15	250	1)	140	100	0.8	33.7	●	●
0001.2710.xx	4	250	1)	100	90	0.9	62.4	●	●
0001.2711.xx	5	250	1)	100	90	1.2	97.5	●	●
0001.2712.xx	6.3	250	1)	100	70	1.2	171	●	●
0001.2713.xx	8	250	2)	100	70	1.3	268	●	●
0001.2714.xx	10	250	2)	100	70	2.1	400	●	●
0001.2715.xx	12.5	250	3)		70	3.1	563		●
0001.2716.xx	16	250	3)		70	4	1272		●

1) IEC: 1500 A @ 250 VAC , p.f. = 0.7 - 0.8

1) UL: 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 1500 A @ 250 VAC

2) 1000 A @ 250 VAC

3) UL: 500 A @ 125 VAC, p.f. = 0.7 - 0.8 / 1000 A @ 125 VAC / 500 A @ 250 VAC

Packaging Unit

.11 Plastic Bag (100 pcs.)

.22 Blister Tape 38 cm Reel (2000 pcs.)

SMD-FTT



UL 248-14 · 250 VAC · Super-Time-Lag TT



Description

- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383
Time-Current Curves see page 205
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

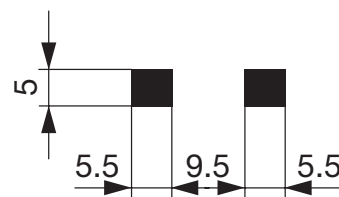
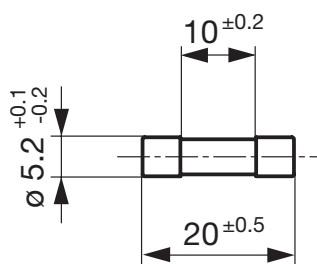
Technical Data

Rated Voltage	250 VAC
Rated Current	0.16 - 4 A
Breaking Capacity	35 A
Characteristic	Super-Time-Lag TT
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/21 acc. to IEC 60068-1
Material: Housing	Glass
Material: Terminals	Gold-Plated Copper Alloy
Unit Weight	1.11 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  5 mm



Solder pads

SMD-FTT**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.16 A - 4 A	60 min	30 min	5 s	200 s	1.5 s	40 s	150 ms	3 s

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting Pt 10.0 In typ [A²s]	
0034.5705.xx	0.16	250	1)	2000	450	0.3	1	●
0034.5706.xx	0.2	250	1)	1500	400	0.33	1.73	●
0034.5707.xx	0.25	250	1)	1200	330	0.35	2.53	●
0034.5708.xx	0.315	250	1)	1000	300	0.36	4.17	●
0034.5709.xx	0.4	250	1)	900	225	0.4	5.2	●
0034.5710.xx	0.5	250	1)	800	250	0.44	7.9	●
0034.5711.xx	0.63	250	1)	700	200	0.47	13.7	●
0034.5712.xx	0.8	250	1)	500	160	0.54	19.6	●
0034.5713.xx	1	250	1)	250	150	0.54	19.4	●
0034.5714.xx	1.25	250	1)	200	105	0.35	63	●
0034.5715.xx	1.6	250	1)	200	100	0.65	87	●
0034.5716.xx	2	250	1)	200	100	0.8	124	●
0034.5717.xx	2.5	250	1)	150	90	0.85	258	●
0034.5718.xx	3.15	250	1)	100	90	1	395	●
0034.5719.xx	4	250	1)	100	80	1.15	410	●

1) 35 A @ 250 VAC

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 38 cm Reel (2000 pcs.)

MSF 125



UL 248-14 · 125 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383
Time-Current Curves see page 201
Packaging Details see page 379
Corresponding Fuseholder FME see WEB;
Corresponding Fuseholder FMR see WEB;
Corresponding Fuseholder FMS (125V) see page 351

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

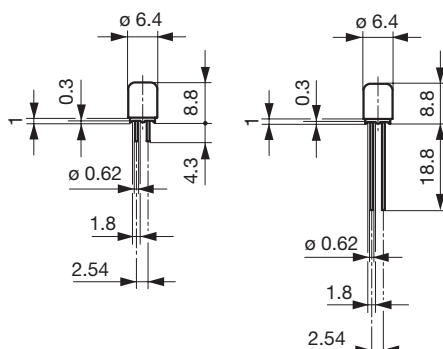
Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.1 - 5 A
Breaking Capacity	300 A
Characteristic	Quick-Acting F
Mounting	PCB,THT
Admissible Ambient Air Temp.	-25 °C to 85 °C
Climatic Category	25/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.34 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Characteristic, Approvals

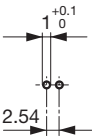
Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*ln @ 70°C)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length 6.4 mm



MSF 125



Drilling Diagram

Pre-Arcing Time

Rated Current In	1.5 x In max.	2.0 x In max.	2.75 x In max.	4.0 x In max.	10.0 x In max.
0.1 A - 5 A	10 min	5 s	300 ms	30 ms	4 ms

MSF 125

Variants

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In max [mW]	Melting I ² t 10.0 In typ [A ² s]	  
0034.4209	●			0.1	125	1)	1000	690	100	0.0007	● ●
0034.4210	●			0.125	125	1)	1000	960	100	0.0015	● ●
0034.4211	●			0.16	125	1)	1000	850	100	0.0036	● ●
0034.4212	●			0.2	125	1)	700	680	100	0.0033	● ●
0034.4213	●			0.25	125	1)	700	620	100	0.0055	● ●
0034.4214	●			0.315	125	1)	700	680	200	0.025	● ●
0034.4215	●			0.4	125	1)	400	180	100	0.013	● ●
0034.4216	●			0.5	125	1)	400	180	100	0.02	● ●
0034.4217	●			0.63	125	1)	400	180	100	0.045	● ●
0034.4218	●			0.71	125	1)	400	140	100	0.045	● ●
0034.4219	●			0.75	125	1)	400	170	100	0.02	● ●
0034.4220	●			0.8	125	1)	400	150	100	0.04	● ●
0034.4221	●			1	125	1)	400	150	100	0.07	● ●
0034.4222	●			1.25	125	1)	190	150	200	0.12	● ●
0034.4223	●			1.6	125	1)	190	150	200	0.29	● ●
0034.4224	●			2	125	1)	190	130	200	0.43	● ●
0034.4225	●			2.5	125	1)	190	120	300	0.6	● ●
0034.4226	●			3.15	125	1)	190	120	400	1.1	● ●
0034.4227	●			4	125	1)	190	120	500	1.9	● ●
0034.4228	●			5	125	1)	190	120	600	3	● ●
0034.4239	●			0.1	125	1)	1000	690	100	0.0007	● ●
0034.4240	●			0.125	125	1)	1000	960	100	0.0015	● ●
0034.4241	●			0.16	125	1)	1000	850	100	0.0036	● ●
0034.4242	●			0.2	125	1)	700	680	100	0.0033	● ●
0034.4243	●			0.25	125	1)	700	620	100	0.0055	● ●
0034.4244	●			0.315	125	1)	700	680	200	0.025	● ●
0034.4245	●			0.4	125	1)	400	180	100	0.013	● ●
0034.4246	●			0.5	125	1)	400	180	100	0.02	● ●
0034.4247	●			0.63	125	1)	400	180	100	0.045	● ●
0034.4248	●			0.71	125	1)	400	140	100	0.045	● ●
0034.4249	●			0.75	125	1)	400	170	100	0.02	● ●
0034.4250	●			0.8	125	1)	400	150	100	0.04	● ●
0034.4251	●			1	125	1)	400	150	100	0.07	● ●
0034.4252	●			1.25	125	1)	190	150	200	0.12	● ●
0034.4253	●			1.6	125	1)	190	150	200	0.29	● ●
0034.4254	●			2	125	1)	190	130	200	0.43	● ●
0034.4255	●			2.5	125	1)	190	120	300	0.6	● ●
0034.4256	●			3.15	125	1)	190	120	400	1.1	● ●
0034.4257	●			4	125	1)	190	120	500	1.9	● ●
0034.4258	●			5	125	1)	190	120	600	3	● ●
0034.4539		●		0.1	125	1)	1000	690	100	0.0007	● ●
0034.4540		●		0.125	125	1)	1000	960	100	0.0015	● ●
0034.4541		●		0.16	125	1)	1000	850	100	0.0036	● ●
0034.4542		●		0.2	125	1)	700	680	100	0.0033	● ●
0034.4543		●		0.25	125	1)	700	620	100	0.0055	● ●
0034.4544		●		0.315	125	1)	700	680	200	0.025	● ●
0034.4545		●		0.4	125	1)	400	180	100	0.013	● ●
0034.4546		●		0.5	125	1)	400	180	100	0.02	● ●
0034.4547		●		0.63	125	1)	400	180	100	0.045	● ●

MSF 125

Variants

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In max [mW]	Melting I ² t 10.0 In typ [A ² s]		
0034.4548			●	0.71	125	1)	400	140	100	0.045	●	●
0034.4549			●	0.75	125	1)	400	170	100	0.02	●	●
0034.4550			●	0.8	125	1)	400	150	100	0.04	●	●
0034.4551			●	1	125	1)	400	150	100	0.07	●	●
0034.4552			●	1.25	125	1)	190	150	200	0.12	●	●
0034.4553			●	1.6	125	1)	190	150	200	0.29	●	●
0034.4554			●	2	125	1)	190	130	200	0.43	●	●
0034.4555			●	2.5	125	1)	190	120	300	0.6	●	●
0034.4556			●	3.15	125	1)	190	120	400	1.1	●	●
0034.4557			●	4	125	1)	190	120	500	1.9	●	●
0034.4558			●	5	125	1)	190	120	600	3	●	●

1) 300 A @ 125 VAC/DC

Packaging Unit

S + L = Plastic Bag (100 pcs.)

T = Taped 36 cm Reel (1000 pcs.)

MSF 250



IEC 60127-3 · 250 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards
- Low Breaking Capacity

Standards

- IEC 60127-3/3
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 101035
- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 201
- Packaging Details see page 379
- Corresponding Fuseholder FMS (250V) see page 354

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

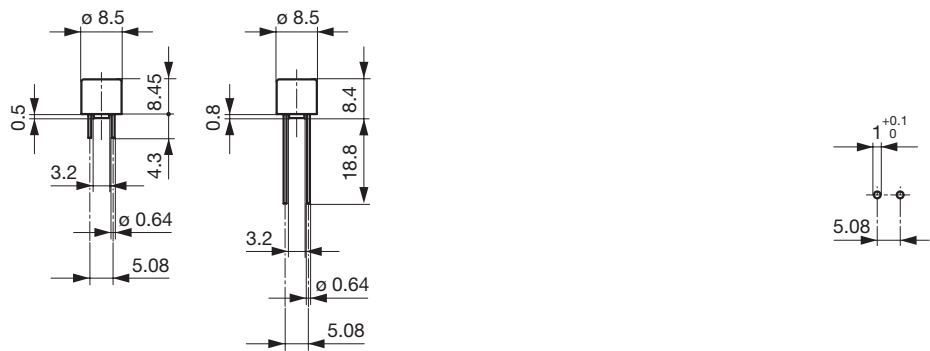
Rated Voltage	250 VAC/DC
Rated Current	0.04 - 5 A
Breaking Capacity	35 A
Characteristic	Quick-Acting F
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

MSF 250

Dimensions

Length  8.5 mm



Drilling Diagram

Pre-Arcing Time

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
0.04 A - 5 A	60 min	30 min	10 ms	3 s	3 ms	300 ms	20 ms

MSF 250**Variants**

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I _{2t} 10.0 In typ [A ² s]				
0034.6000	●			0.04	250	1)		400		0.00016	●			●
0034.6001	●			0.05	250	1)	850	460	110	0.0004	●	●	●	
0034.6002	●			0.063	250	1)	750	330	120	0.001	●	●	●	
0034.6003	●			0.08	250	1)	650	280	140	0.001	●	●	●	
0034.6004	●			0.1	250	1)	600	300	160	0.002	●	●	●	
0034.6005	●			0.125	250	1)	550	210	180	0.006	●	●	●	
0034.6006	●			0.16	250	1)	500	460	210	0.014	●	●	●	
0034.6007	●			0.2	250	1)	480	470	250	0.024	●	●	●	
0034.6008	●			0.25	250	1)	440	360	290	0.058	●	●	●	
0034.6009	●			0.315	250	1)	400	345	330	0.104	●	●	●	
0034.6010	●			0.4	250	1)	370	80	390	0.044	●	●		
0034.6011	●			0.5	250	1)	350	75	460	0.09	●	●	●	
0034.6012	●			0.63	250	1)	320	70	530	0.15	●	●	●	
0034.6013	●			0.8	250	1)	300	70	630	0.22	●	●	●	
0034.6014	●			1	250	1)	280	70	740	0.33	●	●	●	
0034.6015	●			1.25	250	1)	280	65	920	0.68	●	●	●	
0034.6016	●			1.6	250	1)	250	70	1000	0.94	●	●	●	
0034.6017	●			2	250	1)	240	70	1360	1.3	●	●	●	
0034.6018	●			2.5	250	1)	200	65	1310	1.9	●	●	●	
0034.6019	●			3.15	250	1)	180	65	1490	5.4	●	●	●	
0034.6020	●			4	250	2)	160	60	1680	7.9		●		●
0034.6021	●			5	250	2)	150	60	1970	11.2		●		●
0034.6030		●		0.04	250	1)		400		0.00016		●		●
0034.6031		●		0.05	250	1)	850	460	110	0.0004		●	●	●
0034.6032		●		0.063	250	1)	750	330	120	0.001		●	●	●
0034.6033		●		0.08	250	1)	650	280	140	0.001		●	●	●
0034.6034		●		0.1	250	1)	600	300	160	0.002		●	●	●
0034.6035		●		0.125	250	1)	550	210	180	0.006		●	●	●
0034.6036		●		0.16	250	1)	500	460	210	0.014		●	●	●
0034.6037		●		0.2	250	1)	480	470	250	0.024		●	●	●
0034.6038		●		0.25	250	1)	440	360	290	0.058		●	●	●
0034.6039		●		0.315	250	1)	400	345	330	0.104		●	●	●
0034.6040		●		0.4	250	1)	370	80	390	0.044		●	●	
0034.6041		●		0.5	250	1)	350	75	460	0.09		●	●	●
0034.6042		●		0.63	250	1)	320	70	530	0.15		●	●	●
0034.6043		●		0.8	250	1)	300	70	630	0.22		●	●	●
0034.6044		●		1	250	1)	280	70	740	0.33		●	●	●
0034.6045		●		1.25	250	1)	280	65	920	0.68		●	●	●
0034.6046		●		1.6	250	1)	250	70	1000	0.94		●	●	●
0034.6047		●		2	250	1)	240	70	1360	1.3		●	●	●
0034.6048		●		2.5	250	1)	200	65	1310	1.9		●	●	●
0034.6049		●		3.15	250	1)	180	65	1490	5.4		●	●	●
0034.6050		●		4	250	2)	160	60	1680	7.9			●	●
0034.6051		●		5	250	2)	150	60	1970	11.2			●	●
0034.6060			●	0.04	250	1)		400		0.00016			●	●
0034.6061			●	0.05	250	1)	850	460	110	0.0004			●	●
0034.6062			●	0.063	250	1)	750	330	120	0.001			●	●
0034.6063			●	0.08	250	1)	650	280	140	0.001			●	●
0034.6064			●	0.1	250	1)	600	300	160	0.002			●	●

MSF 250

Variants

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]				CCC
0034.6065			●	0.125	250	1)	550	210	180	0.006	●	●	●	
0034.6066			●	0.16	250	1)	500	460	210	0.014	●	●	●	
0034.6067			●	0.2	250	1)	480	470	250	0.024	●	●	●	
0034.6068			●	0.25	250	1)	440	360	290	0.058	●	●	●	
0034.6069			●	0.315	250	1)	400	345	330	0.104	●	●	●	
0034.6070			●	0.4	250	1)	370	80	390	0.044	●	●		
0034.6072			●	0.63	250	1)	320	70	530	0.15	●	●	●	
0034.6073			●	0.8	250	1)	300	70	630	0.22	●	●	●	
0034.6074			●	1	250	1)	280	70	740	0.33	●	●	●	
0034.6075			●	1.25	250	1)	280	65	920	0.68	●	●	●	
0034.6076			●	1.6	250	1)	250	70	1000	0.94	●	●	●	
0034.6077			●	2	250	1)	240	70	1360	1.3	●	●	●	
0034.6078			●	2.5	250	1)	200	65	1310	1.9	●	●	●	
0034.6079			●	3.15	250	1)	180	65	1490	5.4	●	●	●	
0034.6080			●	4	250	2)	160	60	1680	7.9		●		●
0034.6081			●	5	250	2)	150	60	1970	11.2		●		●

1) 35 A @ 250 VAC

2) 10 In @ 250 VAC

Packaging Unit

S + L = Plastic Bag (100 pcs.)

T = Taped 36 cm Reel (750 pcs.)

MST 250



IEC 60127-3 · 250/125 VAC/DC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- Low Breaking Capacity

Standards

- IEC 60127-3/4
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40013529 (0.05 A - 4 A), 40002080 (5 A + 6.3 A)
- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 201
- Packaging Details see page 379
- Corresponding Fuseholder FMS (250V) see page 354

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

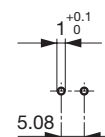
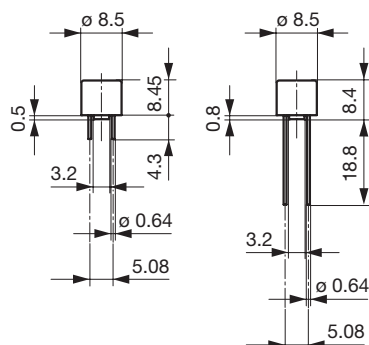
Technical Data

Rated Voltage	250/125 VAC/DC
Rated Current	0.05 - 6.3 A
Breaking Capacity	35 A - 63 A
Characteristic	Time-Lag T
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.53 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length 8.5 mm



Drilling Diagram

MST 250

Pre-Arcing Time

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.05 A - 6.3 A	60 min	120 s	400 ms	10 s	150 ms	3 s	20 ms	150 ms

MST 250

Variants

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]							
0034.6602	●			0.05	250	1)	550	415	155	0.03	●	●		●	●		●
0034.6603	●			0.063	250	1)	480	420	160	0.05	●	●		●	●		●
0034.6604	●			0.08	250	1)	400	360	165	0.06	●	●		●	●		●
0034.6605	●			0.1	250	1)	350	320	170	0.08	●	●		●	●		●
0034.6606	●			0.125	250	1)	300	270	180	0.12	●	●		●	●		●
0034.6607	●			0.16	250	1)	280	190	190	0.24	●	●		●	●		●
0034.6608	●			0.2	250	1)	260	150	200	0.35	●	●		●	●		●
0034.6609	●			0.25	250	1)	240	120	220	0.6	●	●		●	●		●
0034.6610	●			0.315	250	1)	220	120	250	0.8	●	●		●	●		●
0034.6611	●			0.4	250	1)	200	110	280	1.1	●	●		●	●		●
0034.6612	●			0.5	250	1)	190	100	310	2.5	●	●		●	●		●
0034.6613	●			0.63	250	1)	180	90	360	4	●	●		●	●		●
0034.6614	●			0.8	250	1)	160	80	430	8	●	●		●	●		●
0034.6615	●			1	250	1)	140	70	500	12	●	●	●	●	●		●
0034.6616	●			1.25	250	1)	130	70	600	15	●	●	●	●	●		●
0034.6617	●			1.6	250	1)	120	60	730	30	●	●	●	●	●		●
0034.6618	●			2	250	1)	100	60	870	34	●	●	●	●	●		●
0034.6619	●			2.5	250	1)	100	50	1000	55	●	●	●	●	●		●
0034.6620	●			3.15	250	1)	100	50	1200	76	●	●	●	●	●		●
0034.6621	●			4	250	2)	100	50	1400	80	●	●	●	●	●		●
0034.6622	●			5	250	2)		50		230		●	●	●		●	●
0034.6623	●			6.3	250	2)		45		360		●	●			●	●
0034.6702	●			0.05	250	1)	550	415	155	0.03	●	●		●	●		●
0034.6703	●			0.063	250	1)	480	420	160	0.05	●	●		●	●		●
0034.6704	●			0.08	250	1)	400	360	165	0.06	●	●		●	●		●
0034.6705	●			0.1	250	1)	350	320	170	0.08	●	●		●	●		●
0034.6706	●			0.125	250	1)	300	270	180	0.12	●	●		●	●		●
0034.6707	●			0.16	250	1)	280	190	190	0.24	●	●		●	●		●
0034.6708	●			0.2	250	1)	260	150	200	0.35	●	●		●	●		●
0034.6709	●			0.25	250	1)	240	120	220	0.6	●	●		●	●		●
0034.6710	●			0.315	250	1)	220	120	250	0.8	●	●		●	●		●
0034.6711	●			0.4	250	1)	200	110	280	1.1	●	●		●	●		●
0034.6712	●			0.5	250	1)	190	100	310	2.5	●	●		●	●		●
0034.6713	●			0.63	250	1)	180	90	360	4	●	●		●	●		●
0034.6714	●			0.8	250	1)	160	80	430	8	●	●		●	●		●
0034.6715	●			1	250	1)	140	70	500	12	●	●	●	●	●		●
0034.6716	●			1.25	250	1)	130	70	600	15	●	●	●	●	●		●
0034.6717	●			1.6	250	1)	120	60	730	30	●	●	●	●	●		●
0034.6718	●			2	250	1)	100	60	870	34	●	●	●	●	●		●
0034.6719	●			2.5	250	1)	100	50	1000	55	●	●	●	●	●		●
0034.6720	●			3.15	250	1)	100	50	1200	76	●	●	●	●	●		●
0034.6721	●			4	250	2)	100	50	1400	80	●	●	●	●	●		●
0034.6722	●			5	250	2)		50		230		●	●	●		●	●
0034.6723	●			6.3	250	2)		45		360		●	●			●	●
0034.6802	●			0.05	250	1)	550	415	155	0.03	●	●		●	●		●
0034.6803	●			0.063	250	1)	480	420	160	0.05	●	●		●	●		●
0034.6804	●			0.08	250	1)	400	360	165	0.06	●	●		●	●		●
0034.6805	●			0.1	250	1)	350	320	170	0.08	●	●		●	●		●
0034.6806	●			0.125	250	1)	300	270	180	0.12	●	●		●	●		●

MST 250

Variants

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]						
0034.6807	●			0.16	250	1)	280	190	190	0.24	●		●		●	●
0034.6808	●			0.2	250	1)	260	150	200	0.35	●		●		●	●
0034.6809	●			0.25	250	1)	240	120	220	0.6	●		●		●	●
0034.6810	●			0.315	250	1)	220	120	250	0.8	●		●		●	●
0034.6811	●			0.4	250	1)	200	110	280	1.1	●		●		●	●
0034.6812	●			0.5	250	1)	190	100	310	2.5	●		●		●	●
0034.6813	●			0.63	250	1)	180	90	360	4	●		●		●	●
0034.6814	●			0.8	250	1)	160	80	430	8	●		●		●	●
0034.6815	●			1	250	1)	140	70	500	12	●		●	●	●	●
0034.6816	●			1.25	250	1)	130	70	600	15	●		●	●	●	●
0034.6817	●			1.6	250	1)	120	60	730	30	●		●	●	●	●
0034.6818	●			2	250	1)	100	60	870	34	●		●	●	●	●
0034.6819	●			2.5	250	1)	100	50	1000	55	●		●	●	●	●
0034.6820	●			3.15	250	1)	100	50	1200	76	●		●	●	●	●
0034.6821	●			4	250	2)	100	50	1400	80	●		●	●	●	●
0034.6822	●			5	250	2)		50		230		●	●	●		●
0034.6823	●			6.3	250	2)		45		360		●	●		●	●

1) IEC: 35 A @ 250 VAC

1) UL: 35 A @ 250 VAC / 50 A @ 125 VDC

2) IEC: 10 In @ 250 VAC

2) UL: 10 In @ 250 VAC / 10 In @ 125 VDC

Packaging Unit

S + L = Plastic Bag (100 pcs.)

T = Taped 36 cm Reel (750 pcs.)

MSTU 250



UL 248-14 · 250 VAC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- Low Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

- General Product Information see page 383
 Time-Current Curves see page 202
 Packaging Details see page 379
 Corresponding Fuseholder FMS (250V) see page 354

Weblinks

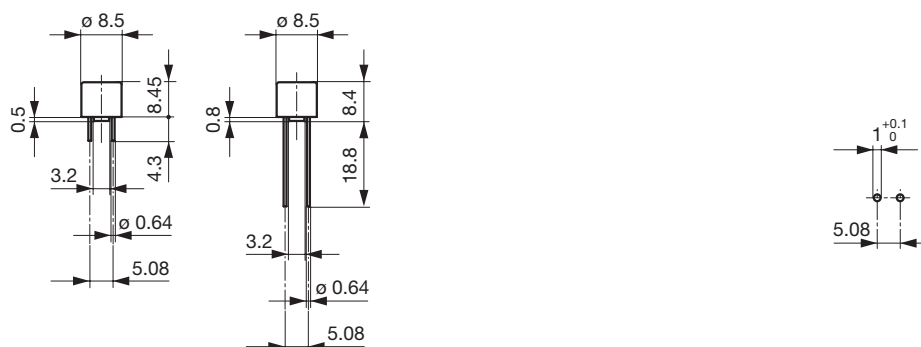
- Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.063 - 10 A
Breaking Capacity	50 A
Characteristic	Time-Lag T
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.53 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  8.5 mm

Drilling Diagram

MSTU 250

Pre-Arcing Time

Rated Current I_n	1.0 x I_n min.	2.0 x I_n max.
0.063 A - 10 A	4 h	60 s

MSTU 250**Variants**

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I _{pt} 10.0 In typ [A ² s]	UL [®] US CCC
0034.7103	●			0.063	250	1)	544	37	0.0176	● ●
0034.7104	●			0.08	250	1)	413	38	0.0313	● ●
0034.7105	●			0.1	250	1)	318	35	0.0456	● ●
0034.7106	●			0.125	250	1)	289	40	0.0567	● ●
0034.7107	●			0.16	250	1)	219	38	0.0692	● ●
0034.7108	●			0.2	250	1)	262	60	0.133	● ●
0034.7109	●			0.25	250	1)	202	55	0.258	● ●
0034.7110	●			0.315	250	1)	168	49	0.361	● ●
0034.7111	●			0.4	250	1)	159	69	0.528	● ●
0034.7112	●			0.5	250	1)	143	78	0.898	● ●
0034.7113	●			0.63	250	1)	124	85	2.24	● ●
0034.7114	●			0.8	250	1)	114	98	4.05	● ●
0034.7115	●			1	250	1)	100	107	6.85	● ●
0034.7116	●			1.25	250	1)	94	127	7.93	● ●
0034.7117	●			1.6	250	1)	85	145	17.5	● ●
0034.7118	●			2	250	1)	80	175	28.6	● ●
0034.7119	●			2.5	250	1)	75	205	40.9	● ●
0034.7120	●			3.15	250	1)	71	240	55	● ●
0034.7121	●			4	250	1)	72	303	67.2	● ●
0034.7122	●			5	250	1)	70	376	142	● ●
0034.7123	●			6.3	250	1)	68	488	287	● ●
0034.7124	●			8	250	1)	50	445	422	● ●
0034.7125	●			10	250	1)	50	630	564	● ●
0034.7203	●			0.063	250	1)	544	37	0.0176	● ●
0034.7204	●			0.08	250	1)	413	38	0.0313	● ●
0034.7205	●			0.1	250	1)	318	35	0.0456	● ●
0034.7206	●			0.125	250	1)	289	40	0.0567	● ●
0034.7207	●			0.16	250	1)	219	38	0.0692	● ●
0034.7208	●			0.2	250	1)	262	60	0.133	● ●
0034.7209	●			0.25	250	1)	202	55	0.258	● ●
0034.7210	●			0.315	250	1)	168	49	0.361	● ●
0034.7211	●			0.4	250	1)	159	69	0.528	● ●
0034.7212	●			0.5	250	1)	143	78	0.898	● ●
0034.7213	●			0.63	250	1)	124	85	2.24	● ●
0034.7214	●			0.8	250	1)	114	98	4.05	● ●
0034.7215	●			1	250	1)	100	107	6.85	● ●
0034.7216	●			1.25	250	1)	94	127	7.93	● ●
0034.7217	●			1.6	250	1)	85	145	17.5	● ●
0034.7218	●			2	250	1)	80	175	28.6	● ●
0034.7219	●			2.5	250	1)	75	205	40.9	● ●
0034.7220	●			3.15	250	1)	71	240	55	● ●
0034.7221	●			4	250	1)	72	303	67.2	● ●
0034.7222	●			5	250	1)	70	376	142	● ●
0034.7223	●			6.3	250	1)	68	488	287	● ●
0034.7224	●			8	250	1)	50	445	422	● ●
0034.7225	●			10	250	1)	50	630	564	● ●
0034.7303		●		0.063	250	1)	544	37	0.0176	● ●
0034.7304		●		0.08	250	1)	413	38	0.0313	● ●
0034.7305		●		0.1	250	1)	318	35	0.0456	● ●

MSTU 250

Variants

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I _t 10.0 In typ [A ² s]	
0034.7306	●			0.125	250	1)	289	40	0.0567	● ●
0034.7307	●			0.16	250	1)	219	38	0.0692	● ●
0034.7308	●			0.2	250	1)	262	60	0.133	● ●
0034.7309	●			0.25	250	1)	202	55	0.258	● ●
0034.7310	●			0.315	250	1)	168	49	0.361	● ●
0034.7311	●			0.4	250	1)	159	69	0.528	● ●
0034.7312	●			0.5	250	1)	143	78	0.898	● ●
0034.7313	●			0.63	250	1)	124	85	2.24	● ●
0034.7314	●			0.8	250	1)	114	98	4.05	● ●
0034.7315	●			1	250	1)	100	107	6.85	● ●
0034.7316	●			1.25	250	1)	94	127	7.93	● ●
0034.7317	●			1.6	250	1)	85	145	17.5	● ●
0034.7318	●			2	250	1)	80	175	28.6	● ●
0034.7319	●			2.5	250	1)	75	205	40.9	● ●
0034.7320	●			3.15	250	1)	71	240	55	● ●
0034.7321	●			4	250	1)	72	303	67.2	● ●
0034.7322	●			5	250	1)	70	376	142	● ●
0034.7323	●			6.3	250	1)	68	488	287	● ●
0034.7324	●			8	250	1)	50	445	422	● ●
0034.7325	●			10	250	1)	50	630	564	● ●

1) 50 A @ 250 VAC

Packaging Unit

S + L = Plastic Bag (100 pcs.)

T = Taped 36 cm Reel (750 pcs.)

MXT 250



IEC 60127-3 · 250 VAC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- High Breaking Capacity

Standards

- IEC 60127-3/4
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40008838
- UL File Number: E41599

References

- General Product Information see page 383
 Time-Current Curves see page 202
 Packaging Details see page 379
 Corresponding Fuseholder FMS (250V) see page 354

Weblinks

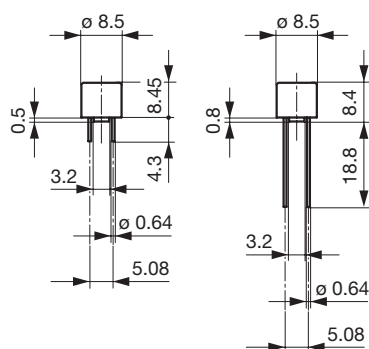
- Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

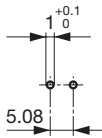
Rated Voltage	250 VAC
Rated Current	0.8 - 10 A
Breaking Capacity	100 A
Characteristic	Time-Lag T
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.78 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  8.5 mm

MXT 250



Drilling Diagram

Pre-Arcing Time

Rated Current In	1.0 x In min.	1.5 x In min.	2.0 x In max.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.
0.8 A - 6.3 A	-	60 min	-	120 s	400 ms	10 s	150 ms	3 s
8 A - 10 A	4 h	-	60 s	-	-	-	-	-
0.8 A - 6.3 A	-	60 min	-	120 s	400 ms	10 s	150 ms	3 s
8 A - 10 A	4 h	-	60 s	-	-	-	-	-
0.8 A - 6.3 A	-	60 min	-	120 s	400 ms	10 s	150 ms	3 s
8 A - 10 A	4 h	-	60 s	-	-	-	-	-

MXT 250**Variants**

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]								
0034.6914	●			0.8	250	1)	160	150	430	1.5	●					●		
0034.6915	●			1	250	1)	140	130	500	4.4	●					●		
0034.6916	●			1.25	250	1)	130	120	600	6.3	●					●		
0034.6917	●			1.6	250	1)	120	110	730	10	●					●		
0034.6918	●			2	250	1)	100	85	870	16	●					●		
0034.6919	●			2.5	250	1)	100	85	1000	32	●					●		
0034.6920	●			3.15	250	1)	100	75	1200	57	●					●		
0034.6921	●			4	250	1)	100	75	14000	77	●					●		
0034.6922	●			5	250	1)		70		155						●		●
0034.6923	●			6.3	250	1)		65		262						●		●
0034.6924	●			8	250	1)		62		397		●						●
0034.6925	●			10	250	1)		62		440		●						●
0034.6944	●			0.8	250	1)	160	150	430	1.5	●					●		
0034.6945	●			1	250	1)	140	130	500	4.4	●					●		
0034.6946	●			1.25	250	1)	130	120	600	6.3	●					●		
0034.6947	●			1.6	250	1)	120	110	730	10	●					●		
0034.6948	●			2	250	1)	100	85	870	16	●					●		
0034.6949	●			2.5	250	1)	100	85	1000	32	●					●		
0034.6950	●			3.15	250	1)	100	75	1200	57	●					●		
0034.6951	●			4	250	1)	100	75	14000	77	●					●		
0034.6952	●			5	250	1)		70		155						●		●
0034.6953	●			6.3	250	1)		65		262						●		●
0034.6954	●			8	250	1)		62		397		●						●
0034.6955	●			10	250	1)		62		440		●						●
0034.6974		●		0.8	250	1)	160	150	430	1.5	●					●		
0034.6975		●		1	250	1)	140	130	500	4.4	●					●		
0034.6976		●		1.25	250	1)	130	120	600	6.3	●					●		
0034.6977		●		1.6	250	1)	120	110	730	10	●					●		
0034.6978		●		2	250	1)	100	85	870	16	●					●		
0034.6979		●		2.5	250	1)	100	85	1000	32	●					●		
0034.6980		●		3.15	250	1)	100	75	1200	57	●					●		
0034.6981		●		4	250	1)	100	75	14000	77	●					●		
0034.6982		●		5	250	1)		70		155						●		●
0034.6983		●		6.3	250	1)		65		262						●		●
0034.6984		●		8	250	1)		62		397		●						●
0034.6985		●		10	250	1)		62		440		●						●

1) 100 A @ 250 VAC

Packaging Unit

S + L = Plastic Bag (100 pcs.)
T = Taped 36 cm Reel (750 pcs.)

FRT 250F



IEC 60127-4 · 250 VAC/DC · Quick-Acting F



Description

- Directly solderable on printed circuit boards
- Low Breaking Capacity

Standards

- IEC 60127-4/1
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40014426 (0.16 A - 5 A), 40014431 (6.3 A + 8 A)
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 194
 Packaging Details see page 379
 Corresponding Fuseholder 231819 see WEB

Weblinks

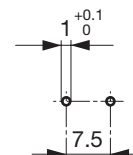
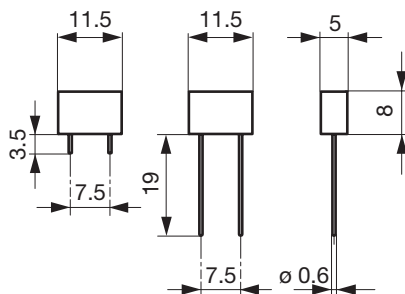
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC/DC
Rated Current	0.16 - 10 A
Breaking Capacity	100 A
Characteristic	Quick-Acting F
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.66 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

Dimensions

Length  11.5 mm

Drilling Diagram

Pre-Arcing Time

Rated Current In	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.16 A - 10 A	60 min	120 s	1 ms	10 ms

FRT 250F**Variants**

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting I _t 10.0 In typ [A ² s]				
7100.1057.xx	●			0.16	250	1)	360	170	0.006	●		●	●
7100.1058.xx	●			0.2	250	1)	290	190	0.01	●		●	●
7100.1059.xx	●			0.25	250	1)	260	210	0.028	●		●	●
7100.1060.xx	●			0.315	250	1)	280	250	0.04	●		●	●
7100.1061.xx	●			0.4	250	1)	260	310	0.088	●		●	●
7100.1062.xx	●			0.5	250	1)	120	110	0.058	●		●	●
7100.1063.xx	●			0.63	250	1)	110	120	0.1	●		●	●
7100.1064.xx	●			0.8	250	1)	110	150	0.21	●		●	●
7100.1065.xx	●			1	250	1)	160	290	0.18	●		●	●
7100.1066.xx	●			1.25	250	1)	155	360	0.28	●		●	●
7100.1067.xx	●			1.6	250	1)	125	340	0.61	●		●	●
7100.1068.xx	●			2	250	1)	125	460	1	●		●	●
7100.1069.xx	●			2.5	250	2)	100	500	1.2	●		●	●
7100.1070.xx	●			3.15	250	2)	95	520	2.4	●		●	●
7100.1071.xx	●			4	250	2)	95	850	4.1	●		●	●
7100.1072.xx	●			5	250	2)	90	800	7.2	●		●	●
7100.1073.xx	●			6.3	250	2)	85	960	15		●	●	●
7100.1074.xx	●			8	250	3)	80	1100	25		●	●	●
7100.1075.xx	●			10	250	3)	80	1350	50			●	●
7100.1157.xx		●	●	0.16	250	1)	360	170	0.006	●		●	●
7100.1158.xx		●	●	0.2	250	1)	290	190	0.01	●		●	●
7100.1159.xx		●	●	0.25	250	1)	260	210	0.028	●		●	●
7100.1160.xx		●	●	0.315	250	1)	280	250	0.04	●		●	●
7100.1161.xx		●	●	0.4	250	1)	260	310	0.088	●		●	●
7100.1162.xx		●	●	0.5	250	1)	120	110	0.058	●		●	●
7100.1163.xx		●	●	0.63	250	1)	110	120	0.1	●		●	●
7100.1164.xx		●	●	0.8	250	1)	110	150	0.21	●		●	●
7100.1159.xx		●	●	0.25	250	1)	260	210	0.28	●		●	●
7100.1165.xx		●	●	1	250	1)	160	290	0.18	●		●	●
7100.1166.xx		●	●	1.25	250	1)	155	360	0.28	●		●	●
7100.1167.xx		●	●	1.6	250	1)	125	340	0.61	●		●	●
7100.1168.xx		●	●	2	250	1)	125	460	1	●		●	●
7100.1169.xx		●	●	2.5	250	2)	100	500	1.2	●		●	●
7100.1170.xx		●	●	3.15	250	2)	95	520	2.4	●		●	●
7100.1171.xx		●	●	4	250	2)	95	850	4.1	●		●	●
7100.1172.xx		●	●	5	250	2)	90	800	7.2	●		●	●
7100.1173.xx		●	●	6.3	250	2)	85	960	15		●	●	●
7100.1174.xx		●	●	8	250	3)	80	1100	25		●	●	●
7100.1175.xx		●	●	10	250	3)	80	1350	50			●	●

1) IEC: 100 A @ 250 VAC , p.f. ≥ 0.95

1) UL: 100 A @ 250 VAC/DC / 10 kA @ 125 VAC, p.f. ≥ 0.7 - 0.8

2) IEC: 100 A @ 250 VAC , p.f. ≥ 0.95

2) UL: 100 A @ 250 VAC/DC

3) IEC: 100 @ 250 VAC , p.f. ≥ 0.95

3) UL: 100 A @ 250 VAC

Packaging Unit

S = .13 Plastic Bag (100 pcs.)

L = .13 Plastic Bag (100 pcs.)

T = .95 Taped 36 cm Reel (500 pcs.)

T = .96 Taped 36 cm Reel (1000 pcs.)

FRT 250T



IEC 60127-4 · 250 VAC/DC · Time-Lag T



Description

- Directly solderable on printed circuit boards
- Low Breaking Capacity

Standards

- IEC 60127-4/1
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40014426 (0.2 A - 5 A), 40014431 (6.3 A)
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 195
 Packaging Details see page 379
 Corresponding Fuseholder 231819 see WEB

Weblinks

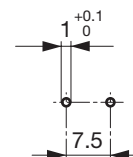
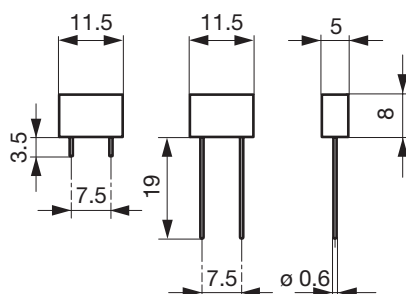
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC/DC
Rated Current	0.2 - 10 A
Breaking Capacity	100 A
Characteristic	Time-Lag T
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.66 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

Dimensions

Length  11.5 mm

Drilling Diagram

Pre-Arcing Time

Rated Current In	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.2 A - 10 A	60 min	120 s	10 ms	100 ms

FRT 250T

Variants

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting Pt 10.0 In typ [A ² s]				
7100.1007.xx	●			0.16	250	1)				●		●	●
7100.1008.xx	●			0.2	250	1)	245	95	0.1	●		●	●
7100.1009.xx	●			0.25	250	1)	185	90	0.2	●		●	●
7100.1010.xx	●			0.315	250	1)	135	75	0.3	●		●	●
7100.1011.xx	●			0.4	250	1)	140	95	0.49	●		●	●
7100.1012.xx	●			0.5	250	1)	125	115	0.53	●		●	●
7100.1013.xx	●			0.63	250	1)	110	125	1.13	●		●	●
7100.1014.xx	●			0.8	250	1)	235	340	1.5	●		●	●
7100.1015.xx	●			1	250	1)	145	310	1.6	●		●	●
7100.1016.xx	●			1.25	250	1)	125	275	3	●		●	●
7100.1017.xx	●			1.6	250	1)	120	380	4.9	●		●	●
7100.1018.xx	●			2	250	1)	120	420	7	●		●	●
7100.1019.xx	●			2.5	250	2)	120	430	7.3	●		●	●
7100.1020.xx	●			3.15	250	2)	105	500	4.7	●		●	●
7100.1021.xx	●			4	250	2)	90	590	25	●		●	●
7100.1022.xx	●			5	250	2)	85	810	32	●		●	●
7100.1023.xx	●			6.3	250	2)	95	700	53		●	●	●
7100.1024.xx	●			8	250	2)	96	500	87			●	●
7100.1025.xx	●			10	250	3)	60	1000	160			●	●
7100.1107.xx	●	●		0.16	250	1)				●		●	●
7100.1108.xx	●	●		0.2	250	1)	245	95	0.1	●		●	●
7100.1109.xx	●	●		0.25	250	1)	185	90	0.2	●		●	●
7100.1110.xx	●	●		0.315	250	1)	135	75	0.3	●		●	●
7100.1111.xx	●	●		0.4	250	1)	140	95	0.49	●		●	●
7100.1112.xx	●	●		0.5	250	1)	125	115	0.53	●		●	●
7100.1113.xx	●	●		0.63	250	1)	110	125	1.13	●		●	●
7100.1114.xx	●	●		0.8	250	1)	235	340	1.5	●		●	●
7100.1115.xx	●	●		1	250	1)	145	310	1.6	●		●	●
7100.1116.xx	●	●		1.25	250	1)	125	275	3	●		●	●
7100.1117.xx	●	●		1.6	250	1)	120	380	4.9	●		●	●
7100.1118.xx	●	●		2	250	1)	120	420	7	●		●	●
7100.1119.xx	●	●		2.5	250	2)	120	430	7.3	●		●	●
7100.1120.xx	●	●		3.15	250	2)	105	500	4.7	●		●	●
7100.1121.xx	●	●		4	250	2)	90	590	25	●		●	●
7100.1122.xx	●	●		5	250	2)	85	810	32	●		●	●
7100.1123.xx	●	●		6.3	250	2)	95	700	53		●	●	●
7100.1124.xx	●	●		8	250	2)	96	500	87			●	●
7100.1125.xx	●	●		10	250	3)	60	1000	160			●	●

1) IEC: 100 A @ 250 VAC, p.f. ≥ 0.95

1) UL : 100 A @ 250 VAC/DC / 10 kA @ 125 VAC, p.f. 0.7 - 0.8

2) IEC: 100 A @ 250 VAC, p.f. ≥ 0.95

2) UL: 100 A @ 250 VAC

3) 65 A @ 250 VAC, p.f. ≥ 0.95

Packaging Unit

S = .13 Plastic Bag (100 pcs.)

L = .13 Plastic Bag (100 pcs.)

T = .95 Taped 36 cm Reel (500 pcs.)

T = .96 Taped 36 cm Reel (1000 pcs.)

PSC 125V**125 VAC/DC · Quick-Acting F****Description**

- Low Breaking Capacity

Approvals

- UL File Number: E42088

References

General Product Information see page 383

Time-Current Curves see page 204

Corresponding Fuseholder 231651 see WEB

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

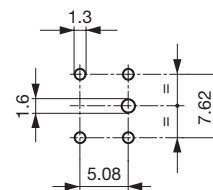
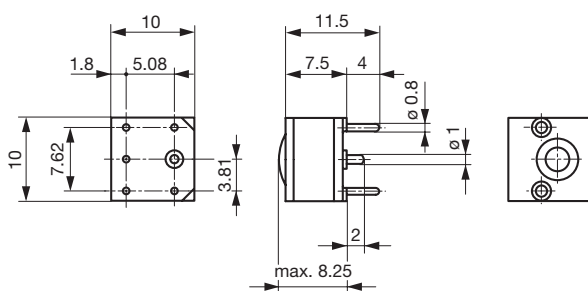
Technical Data

Rated Voltage	125 VAC/DC
Rated Current	1 - 5 A
Breaking Capacity	50 A
Characteristic	Quick-Acting F
Mounting	PCB, Through hole mounting
Admissible Ambient Air Temp.	-55 °C to 125 °C
Climatic Category	55/125/56 acc. to IEC 60068-1
Unit Weight	2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Circuits

Soldering Methods	Iron, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length  10 mm

**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	3.0 x I_n max.
1 A - 5 A	60 min	1 s

PSC 125V

Variants

Order Number	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	
7100.0160.xx	1	125	1)	100	●
7100.0170.xx	2	125	1)	80	●
7100.0180.xx	3	125	1)	70	●
7100.0190.xx	4	125	1)	70	●
7100.0200.xx	5	125	1)	70	●



1) 50 A @ 125 VAC/DC

Packaging Unit .71 Magazine (10 pcs.)

172321



125 VAC/DC · Quick-Acting F



GAM
T1

Description

- High Breaking Capacity

Approvals

References

General Product Information see page 383
Time-Current Curves see page 188
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

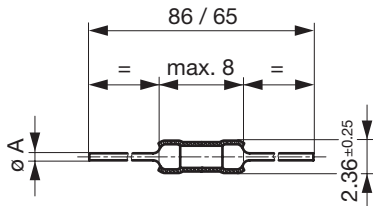
Technical Data

Rated Voltage	32 - 125 VAC/DC
Rated Current	0.063 - 15 A
Breaking Capacity	300 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-55 °C to 85 °C
Climatic Category	55/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Axial Leads	Tin-Plated Copper
Unit Weight	0.46 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating

Soldering Methods	Wave, Iron
Solderability	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb
Resistance to Soldering Heat	350 °C / 3.5 sec acc. to IEC 60068-2-58, Test Tb
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length |—————| 86 mm



In ≤ 10 A: ØA = 0.62 mm
In > 10 A: ØA = 0.82 mm

Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	4.0 x In max.
0.063 A - 10 A	4 h	5 s	30 ms
12 A - 15 A	4 h	10 s	60 ms

172321

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	GAM T1
7100.6300.xx	0.063	125	1)	570	36	0.0014	
7010.6310.xx	0.125	125	1)	720	90	0.0045	●
7010.6320.xx	0.25	125	1)	215	54	0.014	●
7010.6330.xx	0.375	125	1)	185	70	0.025	●
7010.6340.xx	0.5	125	1)	180	90	0.1	●
7010.6350.xx	0.75	125	1)	155	120	0.28	●
7010.6360.xx	1	125	1)	160	160	0.39	●
7010.6370.xx	1.5	125	1)	165	250	0.52	●
7010.6380.xx	2	125	1)	160	320	1.3	●
7010.6390.xx	2.5	125	1)	145	365	1.6	●
7010.6400.xx	3	125	1)	140	420	2.4	●
7010.6410.xx	4	125	1)	125	500	5.7	●
7010.6420.xx	5	125	1)	120	600	8.7	●
7010.6440.xx	7	125	1)	110	770	15	●
7010.6470.xx	10	125	1)	110	1100	46	●
7010.6480.xx	12	32	2)	120	1450	57	●
7010.6490.xx	15	32	2)	110	1650	98	●

1) 300 A @ 125 VAC/DC

2) 300 A @ 32 VAC/DC

Packaging Unit

.13 Plastic Bag (100 pcs.)

.37 Taped 19 cm Reel, Fuse Length 65 mm (1500 pcs.)

.47 Taped 19 cm Reel, Fuse Length 86 mm (1500 pcs.)

172322



IEC 60127-3 · 125 VAC/DC · Quick-Acting F

GAM
T1

Description

- High Breaking Capacity

Standards

- IEC 60127-3/2
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

General Product Information see page 383
Time-Current Curves see page 188
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

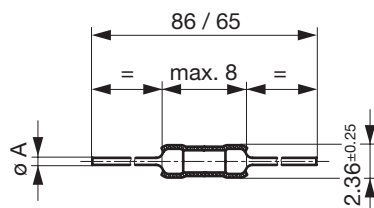
Technical Data

Rated Voltage	32 - 125 VAC/DC
Rated Current	0.063 - 15 A
Breaking Capacity	50 A - 300 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-55 °C to 85 °C
Climatic Category	55/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Axial Leads	Tin-Plated Copper
Unit Weight	0.46 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating

Soldering Methods	Wave, Iron
Solderability	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb
Resistance to Soldering Heat	350 °C / 3.5 sec acc. to IEC 60068-2-58, Test Tb

Dimensions

Length | 86 mm



$I_n \leq 10 \text{ A}$: $\varnothing A = 0.62 \text{ mm}$

$I_n > 10 \text{ A}$: $\varnothing A = 0.82 \text{ mm}$

Pre-Arcing Time

Rated Current I_n	1.0 x I_n min.	1.5 x I_n max.	2.0 x I_n max.	2.75 x I_n max.	4.0 x I_n max.	10.0 x I_n max.
0.063 A - 10 A	4 h	10 min	5 s	300 ms	30 ms	4 ms
12 A - 15 A	4 h	10 min	10 s	-	60 ms	-

172322

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	 GAM T1		
7010.7010.xx	0.063	125	1)	1050	66	0.0008	●	●	
7010.7020.xx	0.125	125	1)	900	115	0.0036	●	●	●
7010.7030.xx	0.25	125	1)	325	82	0.0094	●	●	●
7010.7040.xx	0.375	125	1)	245	92	0.019	●	●	●
7010.7050.xx	0.5	125	1)	260	130	0.07	●	●	●
7010.7060.xx	0.75	125	1)	245	185	0.18	●	●	●
7010.7070.xx	1	125	1)	210	210	0.3	●	●	●
7010.7080.xx	1.5	125	1)	230	345	0.38	●	●	●
7010.7090.xx	2	125	1)	190	380	1.1	●	●	●
7010.7100.xx	2.5	125	1)	175	440	1.4	●	●	●
7010.7110.xx	3	125	1)	170	510	2	●	●	●
7010.7180.xx	3.5	32	2)	160	560	2.6	●	●	●
7010.7120.xx	4	125	1)	180	720	4	●	●	●
7010.7130.xx	5	125	1)	170	850	6.2	●	●	●
7010.7140.xx	7	125	1)	135	945	13	●	●	●
7010.7150.xx	10	125	1)	130	1300	39	●	●	●
7010.7160.xx	12	32	2)	130	1450	57	●	●	●
7010.7170.xx	15	32	2)	120	1800	90	●	●	●

Packaging Unit

- .13 Plastic Bag (100 pcs.)
- .37 Taped 19 cm Reel, Fuse Length 65 mm (1500 pcs.)
- .47 Taped 19 cm Reel, Fuse Length 86 mm (1500 pcs.)

172593



UL 248-14 · 250/125 VAC/DC · Quick-Acting F



Description

- Low Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

General Product Information see page 383
Time-Current Curves see page 189
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

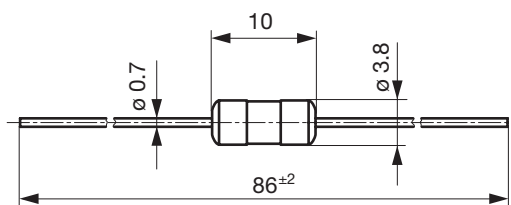
Technical Data

Rated Voltage	125 - 250/125 VAC/DC
Rated Current	0.05 - 5 A
Breaking Capacity	50 A - 300 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	// acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Axial Leads	Tin-Plated Copper
Unit Weight	0.6 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Characteristic

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-58, Test Tb, method 2

Dimensions

Length  86 mm



Pre-Arcing Time

Rated Current In	1.0 x In min.	2.0 x In max.	3.0 x In max.
0.05 A - 5 A	4 h	60 s	100 ms

172593

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Melting I ² t 10.0 In typ [A ² s]	
7010.1740.xx	0.05	250	125	1)	1150	0.00011	●
7010.1750.xx	0.063	250	125	1)	735	0.00035	●
7010.1760.xx	0.08	250	125	1)	950	0.00039	●
7010.1770.xx	0.1	250	125	1)	875	0.00079	●
7010.1780.xx	0.125	250	125	1)	870	0.0013	●
7010.1790.xx	0.15	250	125	1)	545	0.0029	●
7010.1910.xx	0.2	250	125	1)	520	0.0071	●
7010.1920.xx	0.3	250	125	1)	920	0.021	●
7010.1930.xx	0.4	250	125	1)	725	0.057	●
7010.1800.xx	0.5	250	125	1)	725	0.069	●
7010.1810.xx	0.6	250	125	1)	205	0.059	●
7010.1820.xx	0.8	250	125	1)	150	0.095	●
7010.1830.xx	1	250	125	1)	185	0.12	●
7010.1840.xx	1.25	250	125	1)	125	0.29	●
7010.1850.xx	1.6	250	125	1)	135	0.48	●
7010.1860.xx	2	250	125	1)	110	0.95	●
7010.1870.xx	2.5	250	125	1)	145	1.2	●
7010.1880.xx	3	250	125	1)	220	1.8	●
7010.1890.xx	4	250	125	1)	130	3.4	●
7010.1900.xx	5	250	125	1)	105	7.7	●

1) 50 A @ 250 VAC/DC / 300 A @ 125 VAC/DC

Packaging Unit

.12 Plastic Bag (50 pcs.)

.46 Blister Tape 19 cm Reel (1000 pcs.)

172844



UL 248-14 · 125 VAC/DC · Time-Lag T



Description

- Low Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

References

General Product Information see page 383
Time-Current Curves see page 189
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

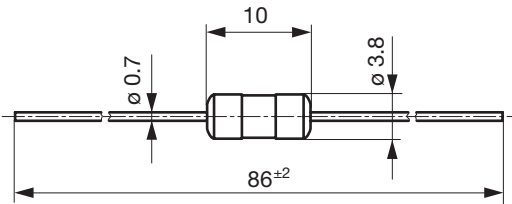
Technical Data

Rated Voltage	65 - 125 VAC/DC
Rated Current	0.125 - 10 A
Breaking Capacity	50 A - 100 A
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Axial Leads	Tin-Plated Copper
Unit Weight	0.6 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Characteristic

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-58, Test Tb, method 2

Dimensions

Length  86 mm



Pre-Arcing Time

Rated Current I _n	1.0 x I _n min.	2.0 x I _n min.	2.0 x I _n max.	3.0 x I _n min.	3.0 x I _n max.	8.0 x I _n min.	8.0 x I _n max.
0.125 A - 10 A	4 h	1 s	120 s	200 ms	3 s	20 ms	100 ms

172844

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Melting I ² t 10.0 In typ [A ² s]	
7010.1607.xx	0.125	125	1)	1200	0.024	●
7010.1608.xx	0.16	125	1)	900	0.038	●
7010.1609.xx	0.2	125	1)	480	0.092	●
7010.1610.xx	0.25	125	1)	320	0.13	●
7010.1611.xx	0.315	125	1)	190	0.16	●
7010.1612.xx	0.4	125	1)	170	0.2	●
7010.1613.xx	0.5	125	1)	155	0.4	●
7010.1614.xx	0.63	125	1)	140	0.64	●
7010.1615.xx	0.8	125	1)	110	1.3	●
7010.1616.xx	1	125	1)	110	2.1	●
7010.1617.xx	1.25	125	1)	90	3.7	●
7010.1618.xx	1.6	125	1)	80	4.4	●
7010.1619.xx	2	125	1)	80	7.2	●
7010.1620.xx	2.5	125	1)	75	13.5	●
7010.1621.xx	3.15	125	1)	75	22	●
7010.1622.xx	4	125	1)	75	37	●
7010.1623.xx	5	125	1)	75	60	●
7010.1624.xx	6.3	125	1)	70	94	●
7010.1625.xx	8	65	2)	70	175	●
7010.1626.xx	10	65	2)	70	260	●

1) 50 A @ 125 VAC/DC

2) 100 A @ 65 VAC/DC

Packaging Unit

.12 Plastic Bag (50 pcs.)

.46 Blister Tape 19 cm Reel (1000 pcs.)

FSF 5x20



IEC 60127-2 · 250 VAC · Quick-Acting F



Description

- IEC Standard Fuse
- L = Low Breaking Capacity (Glass Tube)

Standards

- IEC 60127-2/2
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 138697
- UL File Number: E41599

References

- General Product Information see page 383
- Time-Current Curves see page 195
- Corresponding Fuseholder OGN-SMD see page 310

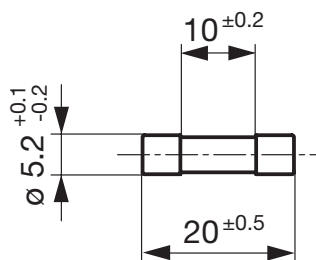
Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.032 - 10 A
Breaking Capacity	35 A - 100 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	0.92 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Dimensions

Length  5 mm

FSF 5x20**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
0.032 A - 0.1 A	60 min	30 min	10 ms	500 ms	3 ms	100 ms	20 ms
0.125 A - 6.3 A	60 min	30 min	50 ms	2 s	10 ms	300 ms	20 ms
8 A - 10 A	30 min	30 min	50 ms	2 s	10 ms	400 ms	40 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting Pt 10.0 In typ [A°s]				
0034.1527	0.032	250	1)	10000	9300	1600	0.000082	●	●	●	●
0034.1528	0.04	250	1)	8000	7400	1600	0.000128	●	●	●	●
0034.1529	0.05	250	1)	7000	6400	1600	0.00025	●	●	●	●
0034.1530	0.063	250	1)	5000	940	1600	0.000278	●	●	●	●
0034.1531	0.08	250	1)	4000	750	1600	0.00102	●	●	●	●
0034.1506	0.1	250	1)	3500	840	1600	0.0014	●	●	●	●
0034.1507	0.125	250	1)	2000	610	1600	0.00484	●	●	●	●
0034.1508	0.16	250	1)	2000	550	1600	0.0113	●	●	●	●
0034.1509	0.2	250	1)	1700	540	1600	0.0252	●	●	●	●
0034.1510	0.25	250	1)	1400	240	1600	0.0159	●	●	●	●
0034.1511	0.315	250	1)	1300	210	1600	0.0367	●	●	●	●
0034.1512	0.4	250	1)	1200	200	1600	0.085	●	●	●	●
0034.1513	0.5	250	1)	1000	150	1600	0.151	●	●	●	●
0034.1514	0.63	250	1)	650	140	1600	0.303	●	●	●	●
0034.1515	0.8	250	1)	240	110	1600	0.508	●	●	●	●
0034.1516	1	250	1)	200	110	1600	1.13	●	●	●	●
0034.1517	1.25	250	1)	200	100	1600	1.81	●	●	●	●
0034.1518	1.6	250	1)	190	100	1600	2.94	●	●	●	●
0034.1519	2	250	1)	170	90	1600	5.28	●	●	●	●
0034.1520	2.5	250	1)	170	90	1600	9.19	●	●	●	●
0034.1521	3.15	250	1)	150	90	2500	16.1	●	●	●	●
0034.1522	4	250	2)	130	90	2500	25.6	●	●	●	●
0034.1523	5	250	2)	130	80	2500	33.8	●	●	●	●
0034.1524	6.3	250	2)	130	80	2500	53.2	●	●	●	●
0034.1525	8	250	2)	130	80	4000	93.4	●	●	●	●
0034.1526	10	250	2)	130	70	4000	183	●	●	●	●

1) 35 A @ 250 VAC

2) 10 In @ 250 VAC

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

FSF 5x20 Pigtail



Pigtail

IEC 60127-2 · 250 VAC · Quick-Acting F



Description

- IEC Standard Fuse
- L = Low Breaking Capacity (Glass Tube)

Standards

- IEC 60127-2/2
- UL 248-14
- CSA C22.2 no. 248.14

References

General Product Information see page 383
 Time-Current Curves see page 195
 Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Approvals

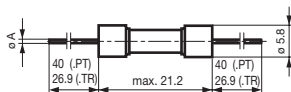
Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 10 A
Breaking Capacity	35 A - 100 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.48 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length | 101.2 mm



$I_n \leq 6.3 \text{ A}$: $\varnothing A = 0.65 \text{ mm}$
 $8 \text{ A} \leq I_n \leq 12.5 \text{ A}$: $\varnothing A = 0.8 \text{ mm}$
 $I_n \geq 16 \text{ A}$: $\varnothing A = 1.0 \text{ mm}$

Pre-Arcing Time

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.	2.75 x I_n min.	2.75 x I_n max.	4.0 x I_n min.	4.0 x I_n max.	10.0 x I_n max.
0.125 A - 6.3 A	60 min	30 min	50 ms	2 s	10 ms	300 ms	20 ms
8 A - 10 A	30 min	30 min	50 ms	2 s	10 ms	400 ms	40 ms

FSF 5x20 Pigtail

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]	   
0034.1513.xx	0.5	250	1)	1000	150	1600	0.151	●
0034.1514.xx	0.63	250	1)	650	140	1600	0.303	●
0034.1515.xx	0.8	250	1)	240	110	1600	0.508	●
0034.1516.xx	1	250	1)	200	110	1600	1.13	●
0034.1517.xx	1.25	250	1)	200	100	1600	1.81	●
0034.1518.xx	1.6	250	1)	190	100	1600	2.94	●
0034.1519.xx	2	250	1)	170	90	1600	5.28	●
0034.1520.xx	2.5	250	1)	170	90	1600	9.19	●
0034.1521.xx	3.15	250	1)	150	90	2500	16.1	●
0034.1522.xx	4	250	2)	130	90	2500	25.6	●
0034.1523.xx	5	250	2)	130	80	2500	33.8	●
0034.1524.xx	6.3	250	2)	130	80	2500	53.2	●
0034.1525.xx	8	250	2)	130	80	4000	93.4	●
0034.1526.xx	10	250	2)	130	70	4000	93.4	●

1) 35 A @ 250 VAC

2) 10 In @ 250 VAC

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

FST 5x20

IEC 60127-2 · 250 VAC · Time-Lag T

**Description**

- IEC Standard Fuse
- L = Low Breaking Capacity (Glass Tube)

Standards

- IEC 60127-2/3
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 119571 (0.032 A - 10
- UL File Number: E41599

References

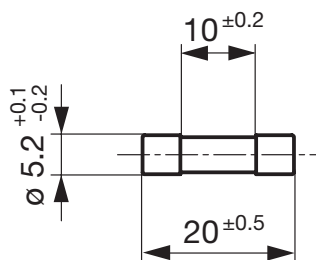
General Product Information see page 383
 Time-Current Curves see page 197
 Corresponding Fuseholder OGN-SMD see page 310

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.02 - 20 A
Breaking Capacity	35 A - 200 A
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

DimensionsLength  5 mm

FST 5x20**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.02 A	60 min	-	-	-	40 ms	3 s	10 ms	300 ms
0.032 A - 0.1 A	60 min	120 s	200 ms	10 s	40 ms	3 s	10 ms	300 ms
0.125 A - 6.3 A	60 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms
8 A - 20 A	30 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting It 10.0 In typ [A²s]						
0034.3101	0.02	250	1)		2700		0.0012						
0034.3102	0.032	250	1)	5000	3000	1600	0.0019	●		●			
0034.3103	0.04	250	1)	4000	2100	1600	0.0027	●		●			
0034.3104	0.05	250	1)	3500	950	1600	0.0363	●		●			●
0034.3105	0.063	250	1)	3000	1300	1600	0.0401	●		●			●
0034.3106	0.08	250	1)	3000	1100	1600	0.057	●		●			●
0034.3107	0.1	250	1)	2500	565	1600	0.107	●		●			●
0034.3108	0.125	250	1)	2000	400	1600	0.064	●		●			●
0034.3109	0.16	250	1)	1900	415	1600	0.23	●		●			●
0034.3110	0.2	250	1)	1500	270	1600	0.256	●		●			●
0034.3111	0.25	250	1)	1300	210	1600	0.238	●		●			●
0034.3112	0.315	250	1)	1100	170	1600	0.544	●		●			●
0034.3113	0.4	250	1)	1000	150	1600	0.768	●		●			●
0034.3114	0.5	250	1)	900	160	1600	3	●		●			●
0034.3115	0.63	250	1)	300	160	1600	4.35	●		●			●
0034.3116	0.8	250	1)	250	120	1600	3.85	●		●			●
0034.3117	1	250	1)	150	60	1600	3.3	●		●	●		●
0034.3118	1.25	250	1)	150	60	1600	5.5	●		●	●		●
0034.3165	1.4	250	1)		60		7.45			●	●		●
0034.3119	1.6	250	1)	150	60	1600	10.5	●		●	●		●
0034.3120	2	250	1)	150	60	1600	16	●		●	●		●
0034.3121	2.5	250	1)	120	60	1600	21.9	●		●	●		●
0034.3122	3.15	250	1)	100	60	1600	47	●		●	●		●
0034.3123	4	250	2)	100	60	1600	68.3	●		●	●		●
0034.3124	5	250	2)	100	60	1600	102	●		●	●		●
0034.3125	6.3	250	2)	100	60	1600	190	●		●			●
0034.3126	8	250	2)	100	60	4000	275	●		●			
0034.3127	10	250	2)	100	60	4000	520	●		●			
0034.3128	12.5	250	3)		60		750		●	●			
0034.3129	16	250	3)		60		1638		●	●			
0034.3130	20	250	3)		60		3057			●			

- 1) 35 A @ 250 VAC
 2) 10 In @ 250 VAC
 3) 125 A @ 250 VAC

Packaging Unit

Small Box Pack (10 pcs.)
 xxxx.xxxx.G Bulk (1000 pcs.)

FST 5x20 Pigtail



Pigtail

IEC 60127-2 · 250 VAC · Time-Lag T



Description

- IEC Standard Fuse
- L = Low Breaking Capacity (Glass Tube)

Standards

- IEC 60127-2/3
- UL 248-14
- CSA C22.2 no. 248.14

References

General Product Information see page 383
 Time-Current Curves see page 197
 Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Approvals

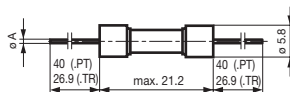
Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 20 A
Breaking Capacity	35 A - 200 A
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.48 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length | 101.2 mm



$I_n \leq 6.3 \text{ A}$: $\varnothing A = 0.65 \text{ mm}$
 $8 \text{ A} \leq I_n \leq 12.5 \text{ A}$: $\varnothing A = 0.8 \text{ mm}$
 $I_n \geq 16 \text{ A}$: $\varnothing A = 1.0 \text{ mm}$

Pre-Arcing Time

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.	2.75 x I_n min.	2.75 x I_n max.	4.0 x I_n min.	4.0 x I_n max.	10.0 x I_n min.	10.0 x I_n max.
0.125 A - 6.3 A	60 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms
8 A - 20 A	30 min	120 s	600 ms	10 s	150 ms	3 s	20 ms	300 ms

FST 5x20 Pigtail

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]	    
0034.3114.xx	0.5	250	1)	900	160	1600	3	●
0034.3115.xx	0.63	250	1)	300	160	1600	4.35	●
0034.3116.xx	0.8	250	1)	250	120	1600	3.85	●
0034.3117.xx	1	250	1)	150	60	1600	3.3	●
0034.3118.xx	1.25	250	1)	150	60	1600	5.5	●
0034.3119.xx	1.6	250	1)	150	60	1600	10.5	●
0034.3120.xx	2	250	1)	150	60	1600	16	●
0034.3121.xx	2.5	250	1)	120	60	1600	21.9	●
0034.3122.xx	3.15	250	1)	100	60	1600	47	●
0034.3123.xx	4	250	2)	100	60	1600	68.3	●
0034.3124.xx	5	250	2)	100	60	1600	102	●
0034.3125.xx	6.3	250	2)	100	60	1600	190	●
0034.3126.xx	8	250	2)	100	60	4000	275	●
0034.3127.xx	10	250	2)	100	60	4000	520	
0034.3128.xx	12.5	250	3)		60		750	
0034.3129.xx	16	250	3)		60		1638	
0034.3130.xx	20	250	3)		60		3057	

1) 35 A @ 250 VAC

2) 10 In @ 250 VAC

3) 125 A @ 250 VAC

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

SP 5x20



IEC 60127-2 · 250 VAC · Quick-Acting F



Description

- IEC Standard Fuse
- H = High Breaking Capacity (Ceramic Tube)

Standards

- IEC 60127-2/1
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 40009397
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 206

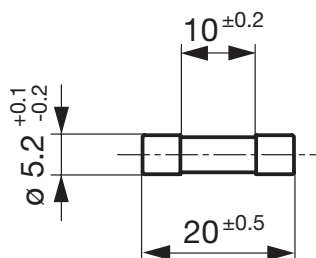
Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 16 A
Breaking Capacity	500 A - 1500 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.18 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Dimensions

Length  5 mm

SP 5x20**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
0.5 A - 4 A	60 min	30 min	10 ms	2 s	3 ms	300 ms	20 ms
5 A - 6.3 A	60 min	30 min	10 ms	3 s	3 ms	300 ms	20 ms
8 A - 10 A	30 min	30 min	40 ms	20 s	10 ms	1 s	30 ms
12.5 A - 16 A	15 min	30 min	40 ms	20 s	10 ms	1 s	30 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting It 10.0 In typ [A²s]					
0001.1001	0.5	250	1)	1800	830	2.5	0.098	●	●		●	
0001.1002	0.63	250	1)	1500	800	2.5	0.207	●	●		●	
0001.1003	0.8	250	1)	1200	580	2.5	0.469	●	●		●	
0001.1004	1	250	1)	1000	600	2.5	0.75	●	●	●	●	
0001.1005	1.25	250	1)	800	270	4	0.538	●	●	●	●	
0001.1006	1.6	250	1)	600	350	4	0.755	●	●	●	●	
0001.1007	2	250	1)	500	260	4	2	●	●	●	●	
0001.1008	2.5	250	1)	400	260	4	3.28	●	●	●	●	
0001.1009	3.15	250	1)	350	210	4	6.78	●	●	●	●	
0001.1010	4	250	1)	300	200	4	12.6	●	●	●	●	
0001.1011	5	250	1)	250	160	4	30.8	●	●	●	●	
0001.1012	6.3	250	1)	200	150	4	36.7	●	●	●	●	
0001.1013	8	250	1)	200	140	4	81.9	●	●	●		
0001.1014	10	250	1)	200	130	4	141	●	●	●		
0001.1015	12.5	250	2)		110		203		●	●		
0001.1016	16	250	2)		120		461		●			

1) IEC: H = 1500 A @ 250 VAC, p.f. 0.7 - 0.8

1) UL: 10 kA @ 125 VAC, p.f. 0.7 - 0.8 / 1500 A @ 250 VAC, p.f. 0.7 - 0.8

2) IEC: 1000 A @ 250 VAC

2) UL: 500 A @ 125 VAC, p.f. 0.7 - 0.8 / 1000 A @ 125 VAC / 500 A @ 250 VAC

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

SP 5x20 Pigtail



SP 5x20 Pigtail

IEC 60127-2 · 250 VAC · Quick-Acting F



Description

- IEC Standard Fuse
- H = High Breaking Capacity (Ceramic Tube)

Standards

- IEC 60127-2/1
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 16 A
Breaking Capacity	500 A - 1500 A
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.67 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

References

- General Product Information see page 383
- Time-Current Curves see page 206
- Packaging Details see page 379

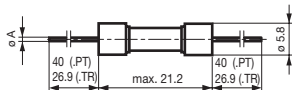
Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length |-----| 101.2 mm



- In ≤ 6.3 A: ØA = 0.65 mm
- 8 A ≤ In ≤ 12.5 A: ØA = 0.8 mm
- In ≥ 16 A: ØA = 1.0 mm

SP 5x20 Pigtail

Pre-Arcing Time

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
0.5 A - 4 A	60 min	30 min	10 ms	2 s	3 ms	300 ms	20 ms
5 A - 6.3 A	60 min	30 min	10 ms	3 s	3 ms	300 ms	20 ms
8 A - 10 A	30 min	30 min	40 ms	20 s	10 ms	1 s	30 ms
12.5 A - 16 A	15 min	30 min	40 ms	20 s	10 ms	1 s	30 ms

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting I ² t 10.0 In typ [A ² s]	    
0001.1001.xx	0.5	250	1)	1800	830	2.5	0.098	●
0001.1002.xx	0.63	250	1)	1500	800	2.5	0.207	●
0001.1003.xx	0.8	250	1)	1200	580	2.5	0.469	●
0001.1004.xx	1	250	1)	1000	600	2.5	0.75	●
0001.1005.xx	1.25	250	1)	800	270	4	0.538	●
0001.1006.xx	1.6	250	1)	600	350	4	0.755	●
0001.1007.xx	2	250	1)	500	260	4	2	●
0001.1008.xx	2.5	250	1)	400	260	4	3.28	●
0001.1009.xx	3.15	250	1)	350	210	4	6.78	●
0001.1010.xx	4	250	1)	300	200	4	12.6	●
0001.1011.xx	5	250	1)	250	160	4	30.8	●
0001.1012.xx	6.3	250	1)	200	150	4	36.7	●
0001.1013.xx	8	250	1)	200	140	4	81.9	●
0001.1014.xx	10	250	1)	200	130	4	141	●
0001.1015.xx	12.5	250	2)		110		203	●
0001.1016.xx	16	250	2)		120		461	●

1) IEC: H = 1500 A @ 250 VAC, p.f. 0.7 - 0.8

1) UL: 10 kA @ 125 VAC, p.f. 0.7 - 0.8 / 1500 A @ 250 VAC, p.f. 0.7 - 0.8

2) IEC: 1000 A @ 250 VAC

2) UL: 500 A @ 125 VAC, p.f. 0.7 - 0.8 / 1000 A @ 125 VAC / 500 A @ 250 VAC

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

SPT 5x20



IEC 60127-2 · 250 VAC · Time-Lag T



Description

- IEC Standard Fuse
- H = High Breaking Capacity (Ceramic Tube)

Standards

- IEC 60127-2/5
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- VDE License Number: 139234 (1 A - 6.3 A)
- UL File Number: E41599

References

General Product Information see page 383
 Time-Current Curves see page 206

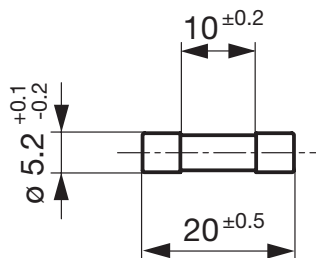
Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 16 A
Breaking Capacity	500 A - 1500 A
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.16 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Dimensions

Length  5 mm

SPT 5x20**Pre-Arcing Time**

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.5 A - 0.8 A	60 min	30 min	250 ms	80 s	50 ms	5 s	5 ms	150 ms
1 A - 3.15 A	60 min	30 min	750 ms	80 s	95 ms	5 s	10 ms	150 ms
4 A - 6.3 A	60 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
8 A - 10 A	30 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
12.5 A - 16 A	15 min	30 min	750 ms	80 s	150 ms	5 s	20 ms	150 ms

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting Pt 10.0 In typ [A²s]	     			
0001.2501	0.5	250	1)	850	360	1.6	0.5	●			
0001.2502	0.63	250	1)	650	330	1.6	1.55	●			
0001.2503	0.8	250	1)	500	260	1.6	2.3	●			
0001.2504	1	250	1)	350	180	2.5	1.1	●	●	●	●
0001.2505	1.25	250	1)	300	150	2.5	1.86	●	●	●	●
0001.2506	1.6	250	1)	200	130	2.5	4.35	●	●	●	●
0001.2507	2	250	1)	190	120	2.5	9.2	●	●	●	●
0001.2508	2.5	250	1)	180	100	2.5	11.7	●	●	●	●
0001.2509	3.15	250	1)	140	100	4	33.7	●	●	●	●
0001.2510	4	250	1)	100	90	4	62.4	●	●	●	●
0001.2511	5	250	1)	100	90	4	97.5	●	●	●	●
0001.2512	6.3	250	1)	100	70	4	171	●	●	●	●
0001.2513	8	250	2)	100	70	4	268	●	●	●	
0001.2514	10	250	2)	100	70	4	400	●	●	●	
0001.2515	12.5	250	3)		70		563	●	●	●	
0001.2516	16	250	3)		70		1500	●	●		

1) IEC: H = 1500 A @ 250 VAC, p.f. 0.7 - 0.8

1) UL: 10 kA @ 125 VAC, p.f. 0.7 - 0.8 / 1500 A @ 250 VAC, p.f. 0.7 - 0.8

2) IEC + UL: 1000 A @ 250 VAC

3) IEC: 500 A @ 250 VAC

3) UL: 500 A @ 125 VAC, p.f. 0.7 - 0.8 / 1000 A @ 125 VAC / 500 A @ 250 VAC

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

SPT 5x20 Pigtail



SPT 5x20 Pigtail

IEC 60127-2 · 250 VAC · Time-Lag T



Description

- IEC Standard Fuse
- H = High Breaking Capacity (Ceramic Tube)

Standards

- IEC 60127-2/5
- UL 248-14
- CSA C22.2 no. 248.14

Approvals

Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 16 A
Breaking Capacity	500 A - 1500 A
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.68 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

References

- General Product Information see page 383
- Time-Current Curves see page 207
- Packaging Details see page 379

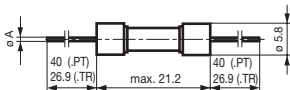
Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length |-----| 101.2 mm



- In ≤ 6.3 A: ØA = 0.65 mm
- 8 A ≤ In ≤ 12.5 A: ØA = 0.8 mm
- In ≥ 16 A: ØA = 1.0 mm

SPT 5x20 Pigtail

Pre-Arcing Time

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.5 A - 0.8 A	60 min	30 min	250 ms	80 s	50 ms	5 s	5 ms	150 ms
1 A - 3.15 A	60 min	30 min	750 ms	80 s	95 ms	5 s	10 ms	150 ms
4 A - 6.3 A	60 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
8 A - 10 A	30 min	30 min	750 ms	80 s	150 ms	5 s	10 ms	150 ms
12.5 A - 16 A	15 min	30 min	750 ms	80 s	150 ms	5 s	20 ms	150 ms

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In max [mW]	Melting Pt 10.0 In typ [A²s]	     
0001.2501.xx	0.5	250	1)	850	360	1.6	0.5	●
0001.2502.xx	0.63	250	1)	650	330	1.6	1.55	●
0001.2503.xx	0.8	250	1)	500	260	1.6	2.3	●
0001.2504.xx	1	250	1)	350	180	2.5	1.1	●
0001.2505.xx	1.25	250	1)	300	150	2.5	1.86	●
0001.2506.xx	1.6	250	1)	200	130	2.5	4.35	●
0001.2507.xx	2	250	1)	190	120	2.5	9.2	●
0001.2508.xx	2.5	250	1)	180	100	2.5	11.7	●
0001.2509.xx	3.15	250	1)	140	100	4	33.7	●
0001.2510.xx	4	250	1)	100	90	4	62.4	●
0001.2511.xx	5	250	1)	100	90	4	97.5	●
0001.2512.xx	6.3	250	1)	100	70	4	171	●
0001.2513.xx	8	250	2)	100	70	4	268	●
0001.2514.xx	10	250	2)	100	70	4	400	●
0001.2515.xx	12.5	250	3)		70		563	●
0001.2516.xx	16	250	3)		70		1500	●

1) IEC: H = 1500 A @ 250 VAC, p.f. 0.7 - 0.8

1) UL: 10 kA @ 125 VAC, p.f. 0.7 - 0.8 / 1500 A @ 250 VAC, p.f. 0.7 - 0.8

2) IEC + UL: 1000 A @ 250 VAC

3) IEC: 500 A @ 250 VAC

3) UL: 500 A @ 125 VAC, p.f. 0.7 - 0.8 / 1000 A @ 125 VAC / 500 A @ 250 VAC

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

FSK 5x20**UL 248-14 · 125/250 VAC · Quick-Acting F****Description**

- UL Standard Fuse
- High Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E184831

References

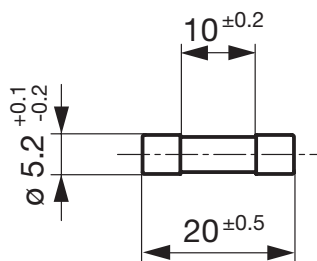
General Product Information see page 383
 Time-Current Curves see page 196

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.05 - 6.3 A
Breaking Capacity	32 A - 10 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  5 mm**Pre-Arcing Time**

Rated Current I_n	1.1 x I_n min.	1.35 x I_n max.	2.0 x I_n max.
0.05 A - 6.3 A	4 h	60 min	120 s

FSK 5x20

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s] 
0034.3851	0.05	250	1)	15000	1500	0.00078 ●
0034.3852	0.063	250	1)	13000	1500	0.0014 ●
0034.3853	0.08	250	1)	7000	1500	0.00077 ●
0034.3854	0.1	250	1)	6000	1500	0.0015 ●
0034.3855	0.125	250	1)	6000	1500	0.031 ●
0034.3856	0.15	250	1)	4000	1500	0.034 ●
0034.3858	0.18	250	1)	3000	1500	0.033 ●
0034.3859	0.2	250	1)	3000	1500	0.043 ●
0034.3860	0.25	250	1)	3000	1500	0.08 ●
0034.3861	0.3	250	1)	2000	1500	0.07 ●
0034.3862	0.315	250	1)	2000	1500	0.084 ●
0034.3864	0.4	250	1)	550	1500	0.03 ●
0034.3865	0.45	250	1)	450	1500	0.058 ●
0034.3866	0.5	250	1)	450	1500	0.072 ●
0034.3867	0.63	250	1)	450	1500	0.1 ●
0034.3869	0.7	250	1)	350	1500	0.28 ●
0034.3870	0.75	250	1)	350	1500	0.31 ●
0034.3871	0.8	250	1)	300	1500	0.4 ●
0034.3872	1	250	1)	300	1500	0.68 ●
0034.3873	1.2	250	2)	250	1500	0.98 ●
0034.3874	1.25	250	2)	250	1500	0.97 ●
0034.3875	1.5	250	2)	250	1500	1.59 ●
0034.3876	1.6	250	2)	250	1500	1.52 ●
0034.3877	2	250	2)	250	1500	2.93 ●
0034.3879	2.5	250	2)	250	1500	4.6 ●
0034.3880	3	250	2)	200	1500	6.8 ●
0034.3881	3.15	250	2)	200	2000	9.72 ●
0034.3882	3.5	250	2)	200	2000	9.75 ●
0034.3883	4	250	3)	200	2000	13.31 ●
0034.3884	5	250	3)	200	2000	21.4 ●
0034.3885	6.3	250	3)	200	2000	40.8 ●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 32 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 100 A @ 250 VAC , p.f. = 0.7 - 0.8

3) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 200 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

FSK 5x20 Pigtail



UL 248-14 · 125/250 VAC · Quick-Acting F



Description

- UL Standard Fuse
- High Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

References

General Product Information see page 383
 Time-Current Curves see page 196
 Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

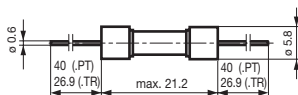
Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.05 - 6.3 A
Breaking Capacity	32 A - 10 kA
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length |—————| 101.2 mm



Pigtail

Pre-Arcing Time

Rated Current I_n	1.1 x I_n min.	1.35 x I_n max.	2.0 x I_n max.
---------------------	---------------------	----------------------	---------------------

FSK 5x20 Pigtail

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s] 
0034.3851.xx	0.05	250	1)	15000	1500	0.00078 ●
0034.3852.xx	0.063	250	1)	13000	1500	0.0014 ●
0034.3853.xx	0.08	250	1)	7000	1500	0.00077 ●
0034.3854.xx	0.1	250	1)	6000	1500	0.0015 ●
0034.3855.xx	0.125	250	1)	6000	1500	0.031 ●
0034.3856.xx	0.15	250	1)	4000	1500	0.034 ●
0034.3858.xx	0.18	250	1)	3000	1500	0.033 ●
0034.3859.xx	0.2	250	1)	3000	1500	0.043 ●
0034.3860.xx	0.25	250	1)	3000	1500	0.08 ●
0034.3861.xx	0.3	250	1)	2000	1500	0.07 ●
0034.3862.xx	0.315	250	1)	2000	1500	0.084 ●
0034.3864.xx	0.4	250	1)	550	1500	0.03 ●
0034.3865.xx	0.45	250	1)	450	1500	0.058 ●
0034.3866.xx	0.5	250	1)	450	1500	0.072 ●
0034.3867.xx	0.63	250	1)	450	1500	0.1 ●
0034.3869.xx	0.7	250	1)	350	1500	0.28 ●
0034.3870.xx	0.75	250	1)	350	1500	0.31 ●
0034.3871.xx	0.8	250	1)	300	1500	0.4 ●
0034.3872.xx	1	250	1)	300	1500	0.68 ●
0034.3873.xx	1.2	250	2)	250	1500	0.98 ●
0034.3874.xx	1.25	250	2)	250	1500	0.97 ●
0034.3875.xx	1.5	250	2)	250	1500	1.59 ●
0034.3876.xx	1.6	250	2)	250	1500	1.52 ●
0034.3877.xx	2	250	2)	250	1500	2.93 ●
0034.3879.xx	2.5	250	2)	250	1500	4.6 ●
0034.3880.xx	3	250	2)	200	1500	6.8 ●
0034.3881.xx	3.15	250	2)	200	2000	9.72 ●
0034.3882.xx	3.5	250	2)	200	2000	9.75 ●
0034.3883.xx	4	250	3)	200	2000	13.31 ●
0034.3884.xx	5	250	3)	200	2000	21.4 ●
0034.3885.xx	6.3	250	3)	200	2000	40.8 ●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 32 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 100 A @ 250 VAC , p.f. = 0.7 - 0.8

3) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 200 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

FSL 5x20



UL 248-14 · 125/250 VAC · Time-Lag T



Description

- UL Standard Fuse
- High Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E184831

References

General Product Information see page 383
Time-Current Curves see page 196

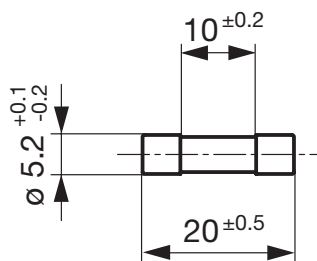
Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.08 - 3 A
Breaking Capacity	35 A - 10 kA
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Approvals

Dimensions

Length  5 mm

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In min.	2.0 x In max.
0.08 A - 3 A	4 h	60 min	5 s	120 s

FSL 5x20

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	U_{Lus}
0034.3881	0.08	250	1)	1500	1500	0.0367	●
0034.3762	0.1	250	1)	1300	1500	0.128	●
0034.3763	0.125	250	1)	1100	1500	0.161	●
0034.3765	0.16	250	1)	1100	1500	0.122	●
0034.3766	0.18	250	1)	1000	1500	0.393	●
0034.3767	0.2	250	1)	1000	1500	0.344	●
0034.3768	0.25	250	1)	900	1500	0.29	●
0034.3769	0.315	250	1)	900	1500	0.345	●
0034.3770	0.4	250	1)	900	1500	0.337	●
0034.3771	0.5	250	1)	700	1500	0.73	●
0034.3772	0.63	250	1)	700	1500	3.62	●
0034.3773	0.75	250	1)	700	1500	5.54	●
0034.3774	0.8	250	1)	700	1500	5.12	●
0034.3775	1	250	1)	700	1500	4.52	●
0034.3776	1.25	250	2)	500	1800	1.54	●
0034.3777	1.5	250	2)	500	1800	2.86	●
0034.3778	1.6	250	2)	500	1800	2.93	●
0034.3779	2	250	2)	500	1800	4.45	●
0034.3780	2.5	250	2)	300	2000	9.45	●
0034.3781	3	250	2)	300	2000	17.5	●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 35 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 100 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

FSL 5x20 Pigtail



UL 248-14 · 125/250 VAC · Time-Lag T



Description

- UL Standard Fuse
- High Breaking Capacity

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E184831

References

- General Product Information see page 383
- Time-Current Curves see page 197
- Packaging Details see page 379

Weblinks

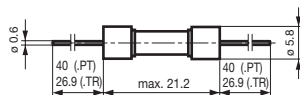
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.08 - 3 A
Breaking Capacity	35 A - 10 kA
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Material: Axial Leads	Tin-Plated Copper
Unit Weight	1.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length |  101.2 mm

Pigtail

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In min.	2.0 x In max.
------------------	------------------	-------------------	------------------	------------------

FSL 5x20 Pigtail

Variants Pigtail

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 10.0 In typ [A ² s] 
0034.3761.xx	0.08	250	1)	1500	1500	0.0367 ●
0034.3762.xx	0.1	250	1)	1300	1500	0.128 ●
0034.3764.xx	0.125	250	1)	1100	1500	0.161 ●
0034.3765.xx	0.16	250	1)	1100	1500	0.122 ●
0034.3766.xx	0.18	250	1)	1000	1500	0.393 ●
0034.3767.xx	0.2	250	1)	1000	1500	0.344 ●
0034.3768.xx	0.25	250	1)	900	1500	0.29 ●
0034.3769.xx	0.315	250	1)	900	1500	0.345 ●
0034.3770.xx	0.4	250	1)	900	1500	0.337 ●
0034.3771.xx	0.5	250	1)	700	1500	0.73 ●
0034.3772.xx	0.63	250	1)	700	1500	3.62 ●
0034.3773.xx	0.75	250	1)	700	1500	5.54 ●
0034.3774.xx	0.8	250	1)	700	1500	5.12 ●
0034.3775.xx	1	250	1)	700	1500	4.52 ●
0034.3776.xx	1.25	250	2)	500	1800	1.54 ●
0034.3777.xx	1.5	250	2)	500	1800	2.86 ●
0034.3778.xx	1.6	250	2)	500	1800	2.93 ●
0034.3779.xx	2	250	2)	500	1800	4.45 ●
0034.3780.xx	2.5	250	2)	300	2000	9.45 ●
0034.3881.xx	3	250	2)	300	2000	17.5 ●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 35 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 100 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

.PT Bulk (1000 pcs.)

.TR Blister Tape 33 cm Reel (1000 pcs.)

SA 5x20**250 VAC · Super-Quick-Acting FF****Description**

- High Breaking Capacity
- Ceramic Tube

References

General Product Information see page 383
Time-Current Curves see page 204

Approvals**Weblinks**

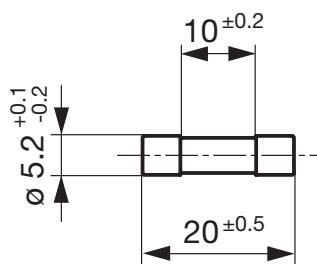
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	1.6 - 10 A
Breaking Capacity	1500 A
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.19 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic

Dimensions

Length  5 mm

**Pre-Arcing Time**

Rated Current I_n	1.2 x I_n min.	2.0 x I_n min.	2.0 x I_n max.	2.75 x I_n min.	2.75 x I_n min.	4.0 x I_n min.	4.0 x I_n max.	10.0 x I_n max.
1.6 A - 10 A	60 min	10 ms	2 s	4 ms	50 ms	2 ms	15 ms	2 ms

SA 5x20

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting Pt 10.0 In typ [A²s]
0034.0903	1.6	250	1)	400	250	600	0.384
0034.0904	2	250	1)	370	200	600	0.484
0034.0905	2.5	250	1)	340	200	800	1.06
0034.0906	3.15	250	1)	310	180	1000	1.26
0034.0907	4	250	1)	280	180	1200	1.28
0034.0908	5	250	1)	250	160	1400	1.78
0034.0909	6.3	250	1)	250	170	2000	5.95
0034.0910	8	250	1)	250	190	2800	8.32
0034.0911	10	250	1)	250	160	2900	17

1) 1500 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)
 xxxx.xxxx.G Bulk (1000 pcs.)

FSM 5x20



250/125 VAC/DC · Medium-Time-Lag M



Description

- Low and Medium Breaking Capacity

Approvals

References

General Product Information see page 383

Time-Current Curves see page 197

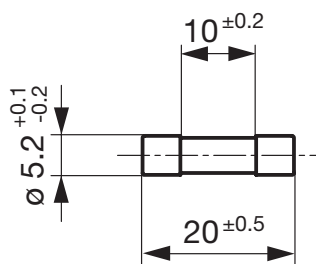
Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250/125 VAC/DC
Rated Current	0.315 - 10 A
Breaking Capacity	80 A - 1000 A
Characteristic	Medium-Time-Lag M
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass / Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	0.92 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic

Dimensions

Length  5 mm

Pre-Arcing Time

Rated Current I _n	1.5 x I _n min.	2.1 x I _n max.	4.0 x I _n min.	4.0 x I _n max.	10.0 x I _n min.	10.0 x I _n max.
0.315 A - 1.25 A	60 min	10 min	40 ms	2 s	5 ms	90 ms
1.6 A - 10 A	60 min	30 min	40 ms	2 s	5 ms	90 ms

FSM 5x20

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting Pt 10.0 In typ [A²s]
0034.2511	0.315	250/125	1)	250	200	200	0.268
0034.2512	0.4	250/125	1)	230	160	200	0.632
0034.2513	0.5	250/125	1)	210	140	200	0.675
0034.2514	0.63	250/125	1)	190	140	200	0.905
0034.2515	0.8	250/125	1)	170	130	200	1.68
0034.2516	1	250/125	1)	160	70	200	3.6
0034.2517	1.25	250/125	1)	160	70	200	5.47
0034.2518	1.6	250/125	2)	160	150	600	3.33
0034.2519	2	250/125	2)	160	140	700	4.8
0034.2520	2.5	250/125	2)	160	130	800	10.9
0034.2521	3.15	250/125	2)	160	120	1000	20.4
0034.2522	4	250/125	2)	160	120	1300	35.2
0034.2523	5	250/125	2)	150	100	1400	52.5
0034.2524	6.3	250/125	2)	140	100	1700	159
0034.2525	8	250/125	3)	140	90	2300	237
0034.2526	10	250/125	3)	120	80	2300	430

Glass Tube: 0.315 A - 1.25 A

Ceramic Tube: 1.6 A - 10 A

1) 80 A @ 250 VAC / 80 A @ 125 VDC

2) 1000 A @ 250 VAC / 1000 A @ 125 VDC

3) 300 A @ 250 VAC / 300 A @ 125 VDC

Packaging Unit

Small Box Pack (10 pcs.)

xxxx.xxxx.G Bulk (1000 pcs.)

FTT 5x20



UL 248-14 · 250 VAC · Super-Time-Lag TT



Description

- Low Breaking Capacity
- Glass Tube

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals

- UL File Number: E41599

References

General Product Information see page 383

Time-Current Curves see page 198

Corresponding Fuseholder OGN-SMD see page 310

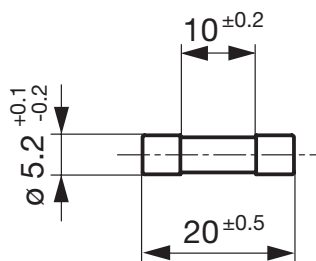
Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.063 - 4 A
Breaking Capacity	35 A
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Dimensions

Length  5 mm

Pre-Arcing Time

Rated Current In	1.5 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.063 A - 0.1 A	60 min	30 min	3 s	100 s	800 ms	20 s	60 ms	1 s
0.125 A - 4 A	60 min	30 min	5 s	200 s	1.5 s	40 s	150 ms	3 s

FTT 5x20

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
0034.5031	0.063	250	1)	5000	1000	220	0.037	●
0034.5032	0.08	250	1)	4500	980	270	0.032	●
0034.5033	0.1	250	1)	4000	870	300	0.14	●
0034.5034	0.125	250	1)	3000	500	270	0.259	●
0034.5035	0.16	250	1)	2000	450	300	1	●
0034.5036	0.2	250	1)	1500	400	330	1.73	●
0034.5037	0.25	250	1)	1200	330	350	2.53	●
0034.5038	0.315	250	1)	1000	300	360	4.17	●
0034.5039	0.4	250	1)	900	225	400	5.2	●
0034.5040	0.5	250	1)	800	250	440	7.9	●
0034.5041	0.63	250	1)	700	200	470	13.7	●
0034.5042	0.8	250	1)	500	160	540	19.6	●
0034.5043	1	250	1)	250	150	540	19.4	●
0034.5044	1.25	250	1)	200	130	570	33.3	●
0034.5045	1.6	250	1)	200	100	650	87	●
0034.5046	2	250	1)	200	100	800	124	●
0034.5047	2.5	250	1)	150	90	850	258	●
0034.5048	3.15	250	1)	100	90	1000	395	●
0034.5049	4	250	1)	100	80	1150	410	●

1) 35 A @ 250 VAC

Packaging Unit

Small Box Pack (10 pcs.)
 xxxx.xxxx.G Bulk (1000 pcs.)

D1



NF C 93-435 · 220 VAC · Quick-Acting F



GAM
T1

NNO

Description

- Low Breaking Capacity

Standards

- NF C 93-435 - Model HA21
- Qualification Approval Certificate of Quality (CCQ)

Approvals

References

General Product Information see page 383
Time-Current Curves see page 192

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

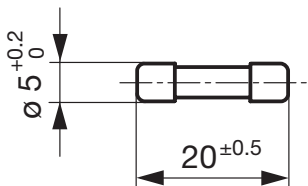
Technical Data

Rated Voltage	32 - 220 VAC
Rated Current	0.02 - 20 A
Breaking Capacity	60 A - 300 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/56 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	HA21, Current Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length  5 mm



Pre-Arcing Time

Rated Current In	1.15 x In min.	1.65 x In max.	3.0 x In max.
0.02 A - 6.3 A	60 min	60 min	200 ms

D1

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.15 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	 GAM T1 NNO		
7010.3110	0.02	220	1)	790	21	0.00027	●		
7010.3120	0.031	220	1)	1400	60	0.00029	●		
7010.3130	0.04	220	1)	2400	155	0.00017	●		
7010.3140	0.05	220	1)	3300	260	0.00017	●		
7010.3150	0.063	220	1)	2250	220	0.00046	●		
7010.3160	0.08	220	1)	1750	215	0.0012	●		
7010.3210	0.1	220	1)	1200	175	0.003	●		
7010.3220	0.125	220	1)	1550	295	0.0037	●		
7010.3230	0.16	220	1)	1300	320	0.0076	●		
7010.3240	0.2	220	1)	1200	375	0.012	●	●	●
7010.3250	0.25	220	1)	1000	400	0.025	●	●	●
7010.3260	0.31	220	1)	475	225	0.018	●	●	●
7010.3270	0.4	220	1)	310	185	0.054	●	●	●
7010.3280	0.5	220	1)	285	215	0.096	●	●	●
7010.3290	0.63	220	1)	310	300	0.14	●	●	●
7010.3310	0.8	220	1)	270	335	0.3	●	●	●
7010.3410	1	220	1)	150	215	0.81	●	●	●
7010.3420	1.25	220	1)	325	660	0.47	●	●	●
7010.3430	1.6	125	2)	300	790	0.93	●	●	●
7010.3440	2	125	2)	185	560	1.9	●	●	●
7010.3450	2.5	125	2)	285	1250	2.5	●	●	●
7010.3460	3.15	125	2)	145	670	7.1	●	●	●
7010.3470	4	125	2)	165	1050	10	●	●	●
7010.3480	5	125	2)	165	1300	18	●	●	●
7010.3510	6.3	125	2)	130	1200	41	●	●	●
7010.3520	8	32	3)	120	1400	79			●
7010.3530	10	32	3)	120	1750	145			●
7010.3620	12.5	32	3)	115	2000	300			●
7010.3630	15	32	3)	125	2750	460			●
7010.3650	20	32	3)	95	2600	1800			●

1) 60 A @ 220 VAC , p.f. = 0.6 - 0.8

2) 300 A @ 125 VAC , p.f. ≥ 0.95 / Schurter: 60 A @ 220 VAC

3) 300 A @ 32 VAC , p.f. ≥ 0.95

Packaging Unit

Small Box Pack (10 pcs.)

D1TD



NF C 93-435 · 220 VAC · Super-Time-Lag TT



Description

- Low Breaking Capacity

Standards

- UL 248-14
 - NF C 93-435 - Model HA20
 - Qualification Approval Certificate of Quality (CCQ)

Approvals

- UL File Number: E42088

References

General Product Information see page 383

Time-Current Curves see page 193

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

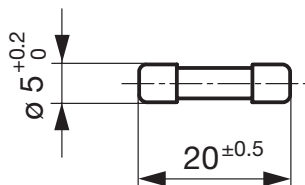
Technical Data

Rated Voltage	32 - 220 VAC
Rated Current	0.031 - 15 A
Breaking Capacity	40 A - 100 A
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/56 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.4 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, HA20, Current Rating, Characteristic

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length 5 mm



Pre-Arcing Time

Rated Current In	1.1 x In min.	1.45 x In max.	1.6 x In max.	3.0 x In min.	3.0 x In max.	5.0 x In min.	5.0 x In max.	10.0 x In min.
0.031 A - 1.25 A	60 min	60 min	-	1 s	60 s	300 ms	10 s	30 ms
1.6 A - 15 A	60 min	-	60 min	1 s	60 s	300 ms	10 s	30 ms

D1TD

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	   			
7030.3110	0.031	220	1)	3850	145	0.079	●			●
7030.3120	0.04	220	1)	3150	155	0.2	●			●
7030.3130	0.05	220	1)	2600	160	0.22	●	●	●	●
7030.3140	0.063	220	1)	2000	155	0.35	●	●	●	●
7030.3150	0.08	220	1)	1850	180	0.26	●	●	●	●
7030.3210	0.1	220	1)	1600	190	0.028	●	●	●	●
7030.3220	0.125	220	1)	2000	300	0.61	●	●	●	●
7030.3230	0.16	220	1)	745	150	0.2	●	●	●	●
7030.3240	0.2	220	1)	715	180	0.39	●	●	●	●
7030.3250	0.25	220	1)	480	150	0.4	●	●	●	●
7030.3260	0.31	220	1)	870	340	0.21	●	●	●	●
7030.3270	0.4	220	1)	665	340	0.64	●	●	●	●
7030.3280	0.5	220	1)	555	360	1	●	●	●	●
7030.3290	0.63	220	1)	460	370	1.6	●	●	●	●
7030.3310	0.8	220	1)	365	370	4.2	●	●	●	●
7030.3320	1	220	1)	295	365	9	●	●	●	●
7030.3330	1.25	220	1)	300	465	7.1	●	●	●	●
7040.3110	1.6	125	2)	280	535	22	●	●	●	●
7040.3120	2	125	2)	245	595	43	●	●	●	●
7040.3130	2.5	125	2)	210	630	128	●	●	●	●
7040.3140	3.15	125	2)	160	615	370	●	●	●	●
7040.3150	4	125	3)	165	790	260	●	●	●	●
7040.3160	5	125	3)	175	1100	440	●	●	●	●
7040.3170	6.3	125	3)	105	775	800	●	●	●	●
7040.3180	8	125	4)	105	1000	1400	●			
7040.3190	10	125	4)	90	1050	2200	●			
7040.3200	12.5	32	5)	55	795	890				
7040.3210	15	32	5)	45	745	3400				

1) NF: 60 A @ 220 VAC , p.f. = 1.0

1) UL: 4000 A @ 125 VAC , p.f. ≥ 0.9 / 4000 A @ 125 VDC , L/R = 5 ms

2) NF: 40 A @ 125 VAC , p.f. = 0.7 - 0.8

2) UL: 100 A @ 125 VAC , p.f. ≥ 0.9

3) NF: 40 A @ 125 VAC , p.f. = 0.7 - 0.8

3) UL: 50 A @ 125 VAC , p.f. ≥ 0.9

4) UL: 50 @ 125 VAC , p.f. ≥ 0.9

5) 100 A @ 32 VAC , p.f. ≥ 0.9

Packaging Unit

Small Box Pack (10 pcs.)

172581**250/125 VAC/DC · Quick-Acting F**
GAM
T1 **NNO**
Description

- High Breaking Capacity

Approvals**References**

General Product Information see page 383

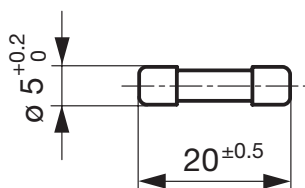
Time-Current Curves see page 188

Corresponding Fuseholder 231529P see page 255

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250/125 VAC/DC
Rated Current	0.16 - 6.3 A
Breaking Capacity	300 A - 1500 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.4 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

DimensionsLength  5 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.7 x In max.	3.0 x In max.
0.16 A - 6.3 A	60 min	60 min	2 s

NON RESETTABLE FUSES



172581

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	GAM T1	NNO
7020.3800	0.16	250	125	1)	2250	475	0.0023	●	●
7020.3820	0.25	250	125	1)	1650	540	0.087	●	
7020.3840	0.4	250	125	1)	1550	835	0.025	●	
7020.3860	0.63	250	125	1)	730	600	0.039	●	●
7020.3880	1	250	125	1)	555	725	0.15	●	●
7020.3900	1.6	250	125	1)	480	990	0.53	●	●
7020.3920	2.5	250	125	1)	225	690	4.5	●	●
7020.3940	4	250	125	1)	200	990	46	●	●
7020.3960	6.3	220	125	1)	150	1200	67	●	●

1) 1500 A @ 250 VAC / 300 A @ 125 VDC

Packaging Unit Small Box Pack (10 pcs.)

FSF 6.3x32**250 VAC · Quick-Acting F****Standards**

- IEC 60127-2/4

Approvals**Applications**

- Industrial electronic

References

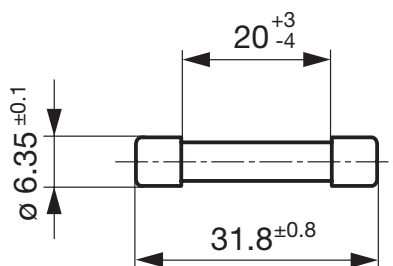
General Product Information see page 383

Time-Current Curves see page 195

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 VAC
Rated Current	0.1 - 10 A
Breaking Capacity	35 A - 100 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.85 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
-------------------------	--------------------------------

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.15 x In min.	2.0 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
0.1 A	60 min	20 s	2 ms	200 ms	1 ms	30 ms	5 ms
0.125 A - 10 A	60 min	20 s	20 ms	1.5 s	8 ms	400 ms	80 ms

FSF 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.15 In typ [mW]
0034.1736	0.1	250	1)	6000	4200	600
0034.1737	0.125	250	1)	5500	3600	600
0034.1738	0.16	250	1)	5000	1700	600
0034.1739	0.2	250	1)	4000	3500	1000
0034.1740	0.25	250	1)	3500	2300	900
0034.1741	0.315	250	1)	3000	2000	900
0034.1742	0.4	250	1)	2500	1700	900
0034.1743	0.5	250	1)	2000	1700	1400
0034.1744	0.63	250	1)	1800	1400	1500
0034.1745	0.8	250	1)	1500	1300	1500
0034.1746	1	250	1)	500	370	500
0034.1747	1.25	250	1)	400	350	600
0034.1748	1.6	250	1)	400	350	600
0034.1749	2	250	1)	300	280	1000
0034.1750	2.5	250	1)	250	240	900
0034.1751	3.15	250	1)	250	230	1900
0034.1752	4	250	2)	250	230	1400
0034.1753	5	250	2)	200	180	2000
0034.1754	6.3	250	2)	200	140	1400
0034.1755	8	250	2)	200	200	2700
0034.1756	10	250	2)	200	180	3100

1) IEC: L = 35 A @ 250 VAC

2) IEC: L = 10 In @ 250 VAC

Packaging Unit Small Box Pack (10 pcs.)

FST 6.3x32**250 VAC · Time-Lag T****Approvals****Applications**

- Industrial electronic

References

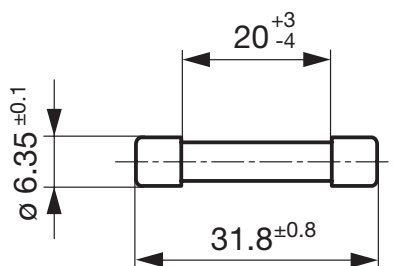
General Product Information see page 383

Time-Current Curves see page 198

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 VAC
Rated Current	0.02 - 20 A
Breaking Capacity	35 A - 200 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2.02 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
-------------------------	--------------------------------

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	2.0 x In min.	2.0 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In min.	10.0 x In max.
0.02 A - 2 A	800 ms	20 s	150 ms	3 s	60 ms	1 s	10 ms	200 ms
2.5 A - 20 A	800 ms	20 s	200 ms	6 s	80 ms	2 s	15 ms	300 ms

FST 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.15 In typ [mW]
0034.3401	0.02	250	1)	5500	2800	100
0034.3402	0.032	250	1)	5500	2700	100
0034.3403	0.04	250	1)	5000	2100	100
0034.3404	0.05	250	1)	5000	1600	100
0034.3405	0.063	250	1)	4000	1500	100
0034.3406	0.08	250	1)	3400	1100	100
0034.3407	0.1	250	1)	2500	940	100
0034.3408	0.125	250	1)	2000	890	100
0034.3409	0.16	250	1)	1700	770	100
0034.3410	0.2	250	1)	1400	840	200
0034.3411	0.25	250	1)	1200	590	200
0034.3412	0.315	250	1)	900	200	100
0034.3413	0.4	250	1)	650	180	100
0034.3414	0.5	250	1)	550	140	100
0034.3415	0.63	250	1)	450	140	100
0034.3416	0.8	250	1)	320	140	100
0034.3417	1	250	1)	270	140	200
0034.3418	1.25	250	1)	250	100	200
0034.3419	1.6	250	1)	200	100	200
0034.3420	2	250	1)	200	90	200
0034.3421	2.5	250	1)	200	80	300
0034.3422	3.15	250	1)	200	80	300
0034.3423	4	250	2)	200	80	400
0034.3424	5	250	2)	200	80	500
0034.3425	6.3	250	2)	200	80	700
0034.3426	8	250	2)	200	120	1500
0034.3427	10	250	2)	200	110	1600
0034.3428	12.5	250	2)	180	100	1700
0034.3429	16	250	2)	150	90	2200
0034.3430	20	250	2)	150	100	3300

1) 35 A @ 250 VAC, p.f. = 1.0

2) 10 In @ 250 VAC, cos phi = 1.0

Packaging Unit Small Box Pack (10 pcs.)

SP 6.3x32**250 VAC · Quick-Acting F****Description**

- H = High Breaking Capacity
- Ceramic Tube

Approvals**Applications**

- Industrial electronic

References

General Product Information see page 383

Time-Current Curves see page 206

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

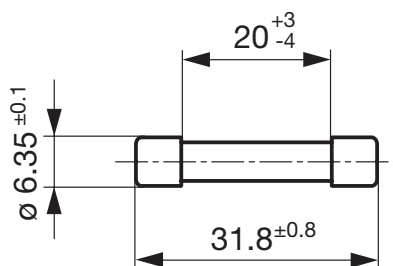
Technical Data

Rated Voltage	250 VAC
Rated Current	0.5 - 20 A
Breaking Capacity	1000 A - 1500 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2.51 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
-------------------------	--------------------------------

Dimensions

Length  6.3 mm

**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.	2.75 x I_n min.	2.75 x I_n max.	4.0 x I_n min.	4.0 x I_n max.	10.0 x I_n max.
0.5 A - 4 A	60 min	60 min	70 ms	5 s	10 ms	150 ms	10 ms
5 A - 20 A	60 min	60 min	150 ms	2 s	25 ms	200 ms	20 ms

SP 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]
0001.1021	0.5	250	1)	3000	1000	3000
0001.1022	0.63	250	1)	2500	2500	3800
0001.1023	0.8	250	1)	2200	520	1200
0001.1024	1	250	1)	1900	410	1200
0001.1025	1.25	250	1)	1600	1600	5400
0001.1026	1.6	250	1)	1300	460	2100
0001.1027	2	250	1)	1000	340	2000
0001.1028	2.5	250	1)	700	350	2800
0001.1029	3.15	250	1)	600	270	3000
0001.1030	4	250	1)	550	270	3500
0001.1031	5	250	1)	500	240	3700
0001.1032	6.3	250	1)	450	170	4700
0001.1033	8	250	1)	400	250	6700
0001.1034	10	250	1)	350	150	5200
0001.1035	12.5	250	2)	300	150	7600
0001.1036	16	250	2)	250	130	8400
0001.1037	20	250	2)	250	130	11500

1) 1500 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 1000 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

SPT 6.3x32**250 VAC · Time-Lag T****Description**

- H = High Breaking Capacity
- Ceramic Tube

Approvals

- UL File Number: E41599

References

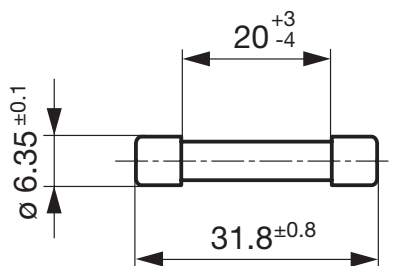
- General Product Information see page 383
- Time-Current Curves see page 207

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	150 - 250 VAC
Rated Current	0.5 - 32 A
Breaking Capacity	1000 A - 1500 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2.45 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current I _n	1.5 x I _n min.	2.1 x I _n max.	2.75 x I _n min.	2.75 x I _n max.	4.0 x I _n min.	4.0 x I _n max.	10.0 x I _n min.	10.0 x I _n max.
0.5 A - 4 A	60 min	60 min	2 s	40 s	150 ms	2.5 s	5 ms	40 ms
5 A - 32 A	60 min	60 min	3 s	50 s	400 ms	4 s	15 ms	100 ms

SPT 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	
0001.2521	0.5	250	1)	2500	2400	3100	●
0001.2522	0.63	250	1)	2000	560	900	●
0001.2523	0.8	250	1)	1200	490	1000	●
0001.2524	1	250	1)	900	350	900	●
0001.2525	1.25	250	1)	700	170	500	●
0001.2526	1.6	250	1)	500	240	1000	●
0001.2527	2	250	1)	400	200	1100	●
0001.2528	2.5	250	1)	350	150	1000	●
0001.2529	3.15	250	1)	300	160	1500	●
0001.2530	4	250	1)	250	130	1500	●
0001.2531	5	250	1)	250	110	1500	●
0001.2532	6.3	250	1)	250	110	1900	●
0001.2533	8	250	1)	200	70	1600	●
0001.2534	10	250	1)	200	70	2000	●
0001.2535	12.5	250	2)	200	70	2300	
0001.2536	16	250	2)	150	70	3800	
0001.2537	20	250	2)	150	70	4300	
0001.2538	25	150	3)	150	70	5100	
0001.2539	32	150	3)	150	70	8600	

1) IEC: 1500 A @ 250 VAC, p.f. 0.7 - 0.8

1) UL: 1500 A @ 250 VAC, p.f. 0.7 - 0.8 / 10 kA @ 125 VAC, p.f. 0.7 - 0.8

2) 1000 A @ 250 VAC

3) 1000 A @ 150 VAC

Packaging Unit

Small Box Pack (10 pcs.)

FSF 6.3x32 (UL)**UL 248-14 · 125/250 VAC · Quick-Acting F****Description**

- UL Standard Fuse
- Glass Tube

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals**References**

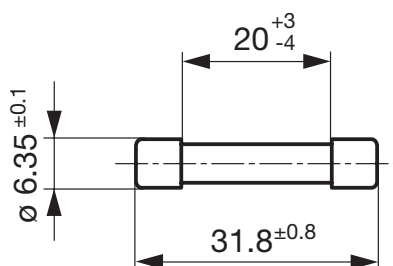
General Product Information see page 383
 Time-Current Curves see page 196

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.1 - 15 A
Breaking Capacity	200 A - 10 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1.8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating, Voltage Rating, Characteristic, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In max.
0.1 A - 15 A	4 h	60 min	5 s

FSF 6.3x32 (UL)

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Power Dissipation 1.1 In typ [mW]	UL	SP
0034.5107	0.1	250	1)	5651	930	●	●
0034.5108	0.125	250	1)	5200	1050	●	●
0034.5109	0.15	250	1)	4950	1160	●	●
0034.5111	0.175	250	1)	4900	1260	●	●
0034.5112	0.187	250	1)	4700	1400	●	●
0034.5113	0.2	250	1)	4500	1430	●	●
0034.5114	0.25	250	1)	4200	1800	●	●
0034.5115	0.3	250	1)	4100	1880	●	●
0034.5117	0.375	250	1)	4000	2250	●	●
0034.5119	0.5	250	1)	450	330	●	●
0034.5120	0.6	250	1)	440	380	●	●
0034.5123	0.75	250	1)	389	420	●	●
0034.5125	1	250	1)	344	560	●	●
0034.5127	1.25	250	1)	330	600	●	●
0034.5128	1.5	250	1)	315	720	●	●
0034.5129	1.6	250	1)	308	750	●	●
0034.5131	2	250	1)	250	900	●	●
0034.5133	2.5	250	1)	240	1020	●	●
0034.5135	3	250	1)	239	1140	●	●
0034.5138	4	250	1)	203	1500	●	●
0034.5139	5	250	1)	178	2000	●	●
0034.5140	6	250	1)	177	2100	●	●
0034.5143	7	250	1)	171	2250	●	●
0034.5144	8	250	1)	165	2550	●	●
0034.5145	10	250	1)	162	2850	●	●
0034.5146	12	125	2)	157	3450	●	●
0034.5147	15	125	2)	150	3900	●	●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 200 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

FST 6.3x32 (UL)

UL 248-14 · 125/250 VAC · Time-Lag T

**Description**

- UL Standard Fuse
- Glass Tube

Standards

- UL 248-14
- CSA C22.2 no. 248.14

Approvals**References**

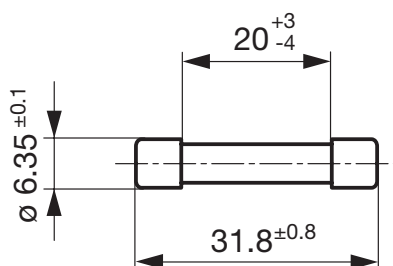
General Product Information see page 383
Time-Current Curves see page 198

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125/250 VAC
Rated Current	0.63 - 15 A
Breaking Capacity	35 A - 10 kA
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating, Voltage Rating, Characteristic, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In min	2.0 x In max
0.02 A - 2 A	4 h	60 min	5 s	30 s
2.5 A - 20 A	4 h	60 min	5 s	30 s

FST 6.3x32 (UL)

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Power Dissipation 1.1 In typ [mW]	UL	SP
0034.5204	0.063	250	1)	7500	1050	●	●
0034.5207	0.1	250	1)	4500	1170	●	●
0034.5208	0.125	250	1)	4136	1220	●	●
0034.5209	0.15	250	1)	3502	1280	●	●
0034.5211	0.175	250	1)	3150	1310	●	●
0034.5212	0.187	250	1)	2850	1340	●	●
0034.5213	0.2	250	1)	2808	1350	●	●
0034.5214	0.25	250	1)	2334	1410	●	●
0034.5215	0.3	250	1)	1950	1460	●	●
0034.5217	0.375	250	1)	1800	1580	●	●
0034.5218	0.4	250	1)	1380	1650	●	●
0034.5219	0.5	250	1)	1125	1800	●	●
0034.5220	0.6	250	1)	1081	1880	●	●
0034.5223	0.75	250	1)	931	2030	●	●
0034.5224	0.8	250	1)	876	2100	●	●
0034.5225	1	250	1)	750	2210	●	●
0034.5226	1.2	250	2)	729	2250	●	●
0034.5227	1.25	250	2)	537	2300	●	●
0034.5228	1.5	250	2)	531	2330	●	●
0034.5229	1.6	250	2)	450	2370	●	●
0034.5230	1.8	250	2)	435	2400	●	●
0034.5231	2	250	2)	427	2480	●	●
0034.5232	2.25	250	2)	393	2520	●	●
0034.5233	2.5	250	2)	359	2570	●	●
0034.5234	2.8	250	2)	330	2610	●	●
0034.5235	3	250	2)	325	2660	●	●
0034.5237	3.2	250	2)	319	2700	●	●
0034.5238	4	250	3)	286	2750	●	●
0034.5239	5	250	3)	270	2840	●	●
0034.5241	6.25	250	3)	180	1400	●	●
0034.5243	7	250	3)	156	1470	●	●
0034.5244	8	250	3)	140	1530	●	●
0034.5245	10	125	4)	91	2700	●	●
0034.5246	12	125	4)	90	3300	●	●
0034.5247	15	125	4)	90	4500	●	●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 35 @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 100 A @ 250 VAC , p.f. = 0.7 - 0.8

3) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 200 A @ 250 VAC , p.f. = 0.7 - 0.8

4) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

SA 6.3x32**250 VAC · Super-Quick-Acting FF****Approvals****Applications**

- Semiconductor protection
- Test equipment

References

General Product Information see page 383
 Time-Current Curves see page 205

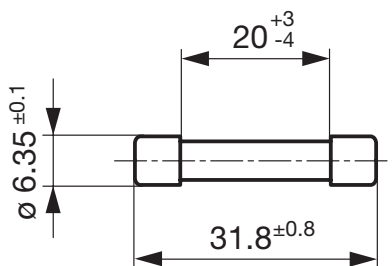
Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	1.6 - 16 A
Breaking Capacity	1500 A
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2.54 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
-------------------------	--------------------------------

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.2 x In min.	2.0 x In min.	2.0 x In max.	2.75 x In min.	2.75 x In max.	4.0 x In min.	4.0 x In max.	10.0 x In max.
1.6 A - 5 A	60 min	10 ms	2 s	4 ms	200 ms	2 ms	40 ms	5 ms
6.3 A - 16 A	60 min	10 ms	2 s	4 ms	50 ms	2 ms	15 ms	2 ms

SA 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]
0034.1001	1.6	250	1)	700	500	1400
0034.1002	2	250	1)	600	470	1600
0034.1003	2.5	250	1)	600	440	2000
0034.1004	3.15	250	1)	600	370	2100
0034.1005	3.5	250	1)	500	450	2700
0034.1006	4	250	1)	500	450	3200
0034.1007	5	250	1)	400	330	3300
0034.1008	6.3	250	1)	400	200	2400
0034.1009	8	250	1)	350	220	3600
0034.1010	10	250	1)	350	190	3600
0034.1011	12.5	250	1)	300	160	4600
0034.1012	16	250	1)	200	180	6600

1) 1500 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit Small Box Pack (10 pcs.)

FTT 6.3x32**250 VAC · Super-Time-Lag TT****Approvals****Applications**

- Industrial electronic

References

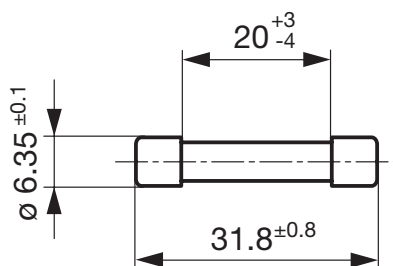
General Product Information see page 383

Time-Current Curves see page 198

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 VAC
Rated Current	0.1 - 4 A
Breaking Capacity	35 A
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	2.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Approvals

Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
-------------------------	--------------------------------

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.2 x In min.	1.75 x In max.	2.1 x In min.	2.1 x In max.	2.75 x In min.	2.75 x In max.	5.0 x In min.	5.0 x In max.
0.1 A - 4 A	60 min	30 min	6 s	120 s	2 s	30 s	600 ms	10 s

FTT 6.3x32

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In max [mV]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]
0034.5503	0.1	250	1)	6000	5800	1000
0034.5504	0.125	250	1)	4000	3900	700
0034.5505	0.16	250	1)	3000	2700	600
0034.5506	0.2	250	1)	2000	1900	700
0034.5507	0.25	250	1)	2000	1800	600
0034.5508	0.315	250	1)	1500	1400	900
0034.5509	0.4	250	1)	1500	1400	900
0034.5510	0.5	250	1)	1200	1100	900
0034.5511	0.63	250	1)	1000	1000	900
0034.5512	0.8	250	1)	900	800	1000
0034.5513	1	250	1)	800	650	1300
0034.5514	1.25	250	1)	700	530	1300
0034.5515	1.6	250	1)	400	210	500
0034.5516	2	250	1)	200	200	700
0034.5517	2.5	250	1)	200	180	700
0034.5518	3.15	250	1)	200	150	800
0034.5519	4	250	1)	150	100	700

1) 35 A @ 250 VAC

Packaging Unit Small Box Pack (10 pcs.)

D8



220 VAC · Quick-Acting F



NN0

Description
- Low Breaking Capacity

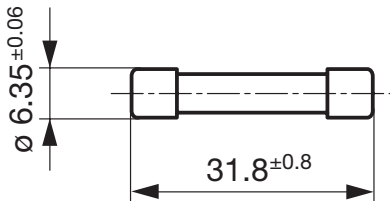
Approvals

References
General Product Information see page 383
Time-Current Curves see page 193

Weblinks
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data	
Rated Voltage	125 - 220 VAC
Rated Current	0.04 - 20 A
Breaking Capacity	100 A - 500 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Glass
Unit Weight	1.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating

Dimensions Length  6.3 mm



Pre-Arcing Time		
Rated Current In	1.1 x In min.	1.7 x In max.
0.04 A - 20 A	60 min	60 min

D8**Variants**

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7015.1130	0.04	220	1)	3800	●
7015.1140	0.05	220	1)	3100	●
7015.1150	0.063	220	1)	4800	●
7015.1160	0.08	220	1)	2860	●
7015.1210	0.1	220	1)	2400	●
7015.1220	0.125	220	1)	2300	●
7015.1230	0.16	220	1)	2500	●
7015.1240	0.2	220	1)	1750	●
7015.1250	0.25	220	1)	2200	●
7015.1270	0.31	220	1)	3200	●
7015.1280	0.4	220	1)	2370	●
7015.1290	0.5	220	1)	2370	●
7015.1320	0.63	220	1)	2050	●
7015.1340	0.8	220	1)	490	●
7015.1350	1	220	1)	820	●
7015.1410	1.25	220	1)	660	●
7015.1430	1.6	220	1)	710	●
7015.1440	2	220	2)	600	●
7015.1450	2.5	220	2)	350	●
7015.1470	3.15	220	2)	320	●
7015.1480	4	220	2)	420	●
7015.1490	5	220	2)	270	●
7015.1520	6.3	220	2)	210	●
7015.1540	8	125		190	●
7015.1550	10	125		90	●
7015.1610	12.5	125		80	●
7015.1620	16	125		80	●
7015.1660	20	125		90	●

1) 500 A @ 220 VAC , p.f. ≥ 0.9

2) 100 A @ 220 VAC , p.f. ≥ 0.9

Packaging Unit

Small Box Pack (10 pcs.)

D8M 125V

D8M125V

125 VAC/DC · Quick-Acting F**NNO****Description**

- Low Breaking Capacity

Approvals**References**

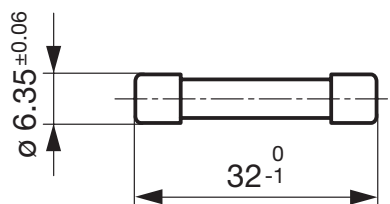
General Product Information see page 383

Time-Current Curves see page 194

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	125 VAC/DC
Rated Current	0.16 - 6.3 A
Breaking Capacity	5 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/56 acc. to IEC 60068-1
Material: Tube	Glass
Unit Weight	2.2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

DimensionsLength  6.3 mm

D8M125V

Pre-Arcing Time

Rated Current In	1.2 x In min.	1.65 x In max.	3.0 x In max.
0.16 A - 6.3 A	60 min	60 min	400 ms

D8M 125V

Variants

Order Number	Type	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7015.6410	D8M125V	0.16	125	1)	1600	●
7015.6310	D8M125V	0.25	125	1)	1400	●
7015.6320	D8M125V	0.4	125	1)	500	●
7015.6330	D8M125V	0.63	125	1)	750	●
7015.6340	D8M125V	1	125	1)	600	●
7015.6420	D8M125V	1.6	125	1)	550	●
7015.6360	D8M125V	2.5	125	1)	400	●
7015.6370	D8M125V	4	125	1)	300	●
7015.6380	D8M125V	6.3	125	1)	250	●

1) 5 kA @ 125 VAC , p.f. = 0.3 - 0.4 / 5 kA @ 125 VDC

Packaging Unit

Small Box Pack (10 pcs.)

A12M 125V

A12M125V

125 VAC/DC · Quick-Acting F**NNO****Description**

- Low Breaking Capacity

Approvals**References**

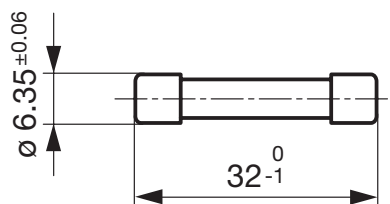
General Product Information see page 383

Time-Current Curves see page 191

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	125 VAC/DC
Rated Current	10 A
Breaking Capacity	5 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3.2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

DimensionsLength  6.3 mm

A12M125V

Pre-Arcing Time**Rated Current In**

10 A	60 min	60 min	400 ms
------	--------	--------	--------

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	
7023.1710	A12M125V	10	125	1)	200	●

1) 5 kA @ 125 VAC, p.f. = 0.3 - 0.4 / 5 kA @ 125 VDC

A12M 125V

Packaging Unit	Small Box Pack (10 pcs.)
-----------------------	--------------------------

D8TD



220 VAC · Super-Time-Lag TT



NNO

Description
- Low Breaking Capacity

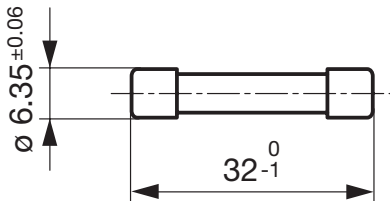
Approvals

References
General Product Information see page 383
Time-Current Curves see page 194

Weblinks
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data	
Rated Voltage	32 - 220 VAC
Rated Current	0.012 - 30 A
Breaking Capacity	100 A
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Glass
Unit Weight	1.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	TD3AG, Current Rating, Characteristic

Dimensions Length  6.3 mm



Pre-Arcing Time								
Rated Current In	1.1 x In min.	1.45 x In max.	2.0 x In min.	2.0 x In max.	3.0 x In min.	3.0 x In max.	5.0 x In min.	5.0 x In max.
0.012 A - 30 A	60 min	60 min	12 s	30 s	4 s	9 s	1 s	4 s

D8TD

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7035.1510	0.012	220	1)	15200	●
7035.1520	0.02	220	1)	16700	
7035.1530	0.031	220	1)	8800	
7035.1540	0.04	220	1)	8470	●
7035.1550	0.05	220	1)	7260	●
7035.1560	0.063	220	1)	4620	●
7035.1570	0.08	220	1)	4020	●
7035.1580	0.1	220	1)	3300	●
7035.1610	0.125	220	1)	2970	●
7035.1620	0.16	220	1)	1900	●
7035.1630	0.2	220	1)	1540	●
7035.1640	0.25	220	1)	1100	●
7035.1650	0.31	220	1)	920	●
7035.1660	0.4	220	1)	660	●
7035.1670	0.5	220	1)	600	
7035.1680	0.63	220	1)	480	●
7035.1690	0.8	220	1)	420	
7035.1710	1	220	1)	340	●
7035.1720	1.25	220	1)	290	●
7045.1110	1.6	220	1)	620	●
7045.1120	2	220	1)	470	
7045.1130	2.5	220	1)	470	●
7045.1140	3.15	220	1)	370	●
7045.1150	4	220	1)	290	
7045.1160	5	220	1)	320	
7045.1170	6.3	220	1)	230	●
7045.1180	8	220	1)	170	●
7045.1190	10	220	1)	180	●
7045.1210	12.5	220	1)	120	●
7045.1230	16	220	1)	130	●
7045.1310	20	32	1)	80	
7045.1410	25	32	1)	70	
7045.1420	30	32	1)	40	

1) 100 A @ 220 VAC

Packaging Unit Small Box Pack (10 pcs.)

A12FA 250V**UL 248-14 · 250 VAC · Super-Quick-Acting FF****Description**

- High Breaking Capacity

Standards

- UL 248-14

Approvals

- UL File Number: E132506

Applications

- Semiconductor protection
- Test equipment

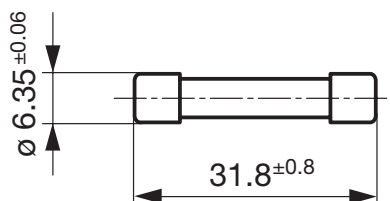
References

General Product Information see page 383

Time-Current Curves see page 190

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 VAC
Rated Current	0.1 - 16 A
Breaking Capacity	200 kA
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.
0.1 A - 16 A	60 min	60 min

A12FA 250V

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7022.0610	0.1	250	1)	2600	1500	0.0017	●
7022.0260	0.125	250	1)	2300	1500	0.0033	●
7022.0270	0.16	250	1)	1700	1400	0.0064	●
7022.0280	0.2	250	1)	1500	1200	0.013	●
7022.0290	0.25	250	1)	1500	2200	0.019	●
7022.0300	0.315	250	1)	2150	4100	0.027	●
7022.0310	0.4	250	1)	2750	2850	0.025	●
7022.0320	0.5	250	1)	2850	3650	0.045	●
7022.0330	0.63	250	1)	2000	3200	0.11	●
7022.0340	0.8	250	1)	2050	4150	0.18	●
7022.0350	1	250	1)	1750	4450	0.41	●
7022.0360	1.25	250	1)	740	4150	0.22	●
7022.0370	1.6	250	1)	570	3050	0.5	●
7022.0380	2	250	1)	615	4500	0.89	●
7022.0390	2.5	250	1)	465	4350	1.8	●
7022.0400	3.15	250	1)	440	5000	3.4	●
7022.0410	4	250	1)	335	4800	8.4	●
7022.0420	5	250	1)	395	7700	12	●
7022.0430	6.3	250	1)	170	3000	34	●
7022.0440	8	250	1)	135	3000	12	●
7022.0450	10	250	1)	155	4750	30	●
7022.0460	12.5	250	1)	180		26	●
7022.0470	16	250	1)	270		39	●

1) 200 kA @ 250 VAC , p.f. ≥ 0.2

Packaging Unit Small Box Pack (10 pcs.)

A12FA 380V**UL 248-14 · 380 VAC · Super-Quick-Acting FF****Description**

- High Breaking Capacity

Standards

- UL 248-14

Approvals

- UL File Number: E132506

Applications

- Semiconductor protection
- Test equipment

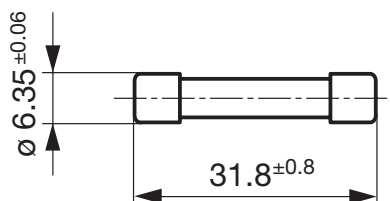
References

General Product Information see page 383

Time-Current Curves see page 191

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	380 VAC
Rated Current	0.1 - 12.5 A
Breaking Capacity	150 kA
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.
0.1 A - 12.5 A	60 min	60 min

A12FA 380V

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7022.0000	0.1	380	1)	2600	1500	0.0017	●
7022.0010	0.125	380	1)	2300	1500	0.0033	●
7022.0020	0.16	380	1)	1700	1400	0.0064	●
7022.0030	0.2	380	1)	1500	1200	0.013	●
7022.0040	0.25	380	1)	1500	2200	0.019	●
7022.0050	0.315	380	1)	2150	4100	0.027	●
7022.0060	0.4	380	1)	2750	2850	0.025	●
7022.0070	0.5	380	1)	2850	3650	0.045	●
7022.0080	0.63	380	1)	2000	3200	0.11	●
7022.0090	0.8	380	1)	2050	4150	0.18	●
7022.0100	1	380	1)	1750	4450	0.41	●
7022.0110	1.25	380	1)	740	4150	0.22	●
7022.0120	1.6	380	1)	570	3050	0.5	●
7022.0130	2	380	1)	615	4500	0.89	●
7022.0140	2.5	380	1)	465	4350	1.8	●
7022.0150	3.15	380	1)	440	5000	3.4	●
7022.0160	4	380	1)	335	4800	8.4	●
7022.0170	5	380	1)	395	7700	12	●
7022.0180	6.3	380	1)	170	3000	34	●
7022.0190	8	380	1)	135	3000	12	●
7022.0200	10	380	1)	155	4750	30	●
7022.0210	12.5	380	1)	180		26	●

1) 150 kA @ 380 VAC , p.f. ≥ 0.2

Packaging Unit Small Box Pack (10 pcs.)

A12FA 500V**UL 248-14 · 500 VAC · Super-Quick-Acting FF****Description**

- High Breaking Capacity

Standards

- UL 248-14

Approvals

- UL File Number: E132506

Applications

- Semiconductor protection
- Test equipment

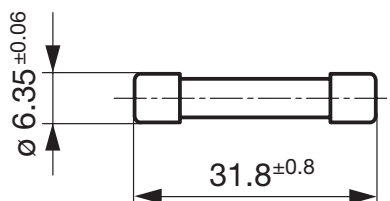
References

General Product Information see page 383

Time-Current Curves see page 191

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	500 VAC
Rated Current	0.1 - 12.5 A
Breaking Capacity	10 kA - 150 kA
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.
---------------------	---------------------	---------------------

A12FA 500V

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7022.0500	0.1	500	1)	2600	1500	0.0017	●
7022.0510	0.125	500	1)	2300	1500	0.0033	●
7022.0520	0.16	500	1)	1700	1400	0.0064	●
7022.0530	0.2	500	1)	1500	1200	0.013	●
7022.0540	0.25	500	1)	1500	2200	0.019	●
7022.0550	0.315	500	1)	2150	4100	0.027	●
7022.0560	0.4	500	1)	2750	2850	0.025	●
7022.0570	0.5	500	1)	2850	3650	0.045	●
7022.0580	0.63	500	1)	2000	3200	0.11	●
7022.0590	0.8	500	1)	2050	4150	0.18	●
7022.0600	1	500	1)	1750	4450	0.41	●
7022.0610	1.25	500	1)	740	4150	0.22	●
7022.0620	1.6	500	1)	570	3050	0.5	●
7022.0630	2	500	1)	615	4500	0.89	●
7022.0640	2.5	500	1)	465	4350	1.8	●
7022.0650	3.15	500	1)	440	5000	3.4	●
7022.0660	4	500	1)	335	4800	8.4	●
7022.0670	5	500	2)	395	7700	12	●
7022.0680	6.3	500	2)	170	3000	34	●
7022.0690	8	500	2)	135	3000	12	●
7022.0700	12	500	2)	155	4750	30	●
7022.0710	12.5	500	2)	180		26	●

1) 150 kA @ 500 VAC , p.f. ≥ 0.2

2) 10 kA @ 500 VAC , p.f. ≥ 0.7

Packaging Unit Small Box Pack (10 pcs.)

A12FA 660V**UL 248-14 · 660 VAC · Super-Quick-Acting FF****Description**

- High Breaking Capacity

Standards

- UL 248-14

Approvals

- UL File Number: E132506

Applications

- Semiconductor protection
- Test equipment

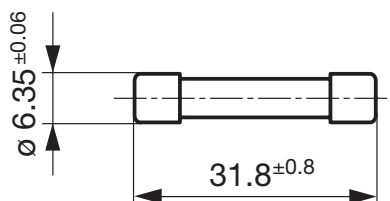
References

General Product Information see page 383

Time-Current Curves see page 191

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	660 VAC
Rated Current	0.1 - 2 A
Breaking Capacity	30 kA
Characteristic	Super-Quick-Acting FF
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current I_n	1.5 x I_n min.	2.1 x I_n max.
0.1 A - 2 A	60 min	60 min

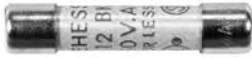
A12FA 660V

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	
7022.0750	0.1	660	1)	2600	1500	0.0017	●
7022.0760	0.125	660	1)	2300	1500	0.0033	●
7022.0770	0.16	660	1)	1700	1400	0.0064	●
7022.0780	0.2	660	1)	1500	1200	0.013	●
7022.0790	0.25	660	1)	1500	2200	0.019	●
7022.8000	0.315	660	1)	2150	4100	0.027	●
7022.0810	0.4	660	1)	2750	2850	0.025	●
7022.0820	0.5	660	1)	2850	3650	0.045	●
7022.0830	0.63	660	1)	2000	3200	0.11	●
7022.0840	0.8	660	1)	2050	4150	0.18	●
7022.0850	1	660	1)	1750	4450	0.41	●
7022.0860	1.25	660	1)	740	4150	0.22	●
7022.0870	1.6	660	1)	570	3050	0.5	●
7022.0880	2	660	1)	615	4500	0.89	●

1) 300 kA @ 660 VAC , p.f. ≥ 0.2

Packaging Unit Small Box Pack (10 pcs.)

A12BK

UL 248-14 · 250 VAC · Quick-Acting F



NNO

Description

- High Breaking Capacity

Standards

- UL 248-14

- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

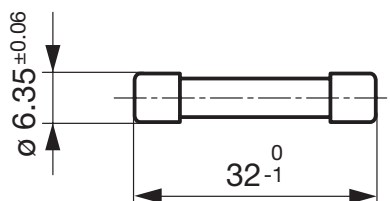
References

General Product Information see page 383

Time-Current Curves see page 190

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 VAC
Rated Current	0.125 - 25 A
Breaking Capacity	35 A - 10 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	2.8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Approvals

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In max.
0.125 A - 25 A	60 min	60 min	120 s

A12BK

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	UL	SE	NNO
7023.0110	0.125	250	1)	2100	400	0.0043	●	●	●
7023.0330	0.16	250	1)	1400	345	0.011	●	●	●
7023.0340	0.2	250	1)	1700	545	0.016	●	●	
7023.0120	0.25	250	1)	1800	725	0.027	●	●	
7023.0130	0.31	250	1)	1780	930	0.047	●	●	●
7023.0140	0.4	250	1)	2700	1550	0.05	●	●	●
7023.0150	0.5	250	1)	2320	1650	0.07	●	●	●
7023.0160	0.63	250	1)	2100	1900	0.2	●	●	
7023.0170	0.8	250	1)	1900	2200	0.39	●	●	●
7023.0180	1	250	1)	1300	1700	0.1	●	●	●
7023.0190	1.25	250	2)	650	1250	0.37	●	●	
7023.0210	1.6	250	2)	390	900	0.83	●	●	
7023.0220	2	250	2)	350	1100	1.5	●	●	●
7023.0230	2.5	250	2)	320	1250	3.2	●	●	
7023.0240	3.15	250	2)	880	3650	6.5	●	●	●
7023.0250	4	250	2)	250	1550	12	●	●	●
7023.0260	5	250	2)	220	1700	26	●	●	●
7023.0270	6.3	250	2)	240	2350	43	●	●	●
7023.0280	8	250	2)	84	965	10	●	●	●
7023.0290	10	250	2)	110	1375	22	●	●	●
7023.0310	12.5	250	2)	85	1500	20	●	●	●
7023.0320	16	250	2)	115	2300	92	●		●
7023.0350	20	250	2)	110	3250	800			
7023.0360	25	250	2)	150	5100	625			

1) 10 kA @ 125 , p.f. = 0.7 - 0.8 / 35 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit Small Box Pack (10 pcs.)

172600



UL 248-14 · 250 VAC · Super-Time-Lag TT



NNO

Description

- High Breaking Capacity

Standards

- UL 248-14

Approvals

- UL File Number: E42088

References

General Product Information see page 383

Time-Current Curves see page 189

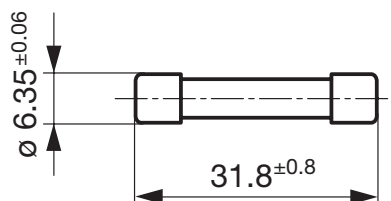
Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125 - 250 VAC
Rated Current	0.125 - 20 A
Breaking Capacity	35 A - 10 kA
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Tin-Plated Nickel
Unit Weight	2.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Characteristic, Approvals

Dimensions

Length  6.3 mm

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In min.	2.0 x In max.
0.125 A - 3 A	60 min	60 min	5 s	120 s
4 A - 20 A	60 min	60 min	12 s	120 s

172600

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	  
7033.8100	0.125	250	1)	3200	480	1.8	●
7033.8110	0.16	250	1)	1120	230	2.7	●
7033.8160	0.2	250	1)	1200	290	2	●
7033.8120	0.25	250	1)	560	170	1.6	●
7033.8130	0.4	250	1)	610	310	8.4	●
7033.8050	0.5	250	2)	655	420	2.6	●
7033.8140	0.6	250	2)	615	470	3	●
7033.8060	0.7	250	2)	540	490	5	●
7033.8070	0.8	250	2)	510	530	8.8	●
7033.8150	1	250	2)	385	490	24	● ●
7033.8080	1.25	250	2)	350	560	30	●
7033.8090	1.5	250	2)	345	670	42	●
7043.8110	1.6	250	2)	315	650	47	● ●
7043.8120	2	250	2)	270	530	84	● ●
7043.8130	2.5	250	2)	255	850	170	●
7043.8140	3	250	2)	240	860	200	●
7043.8150	4	250	2)	168	1650	600	● ●
7043.8160	5	250	2)	150	900	690	●
7043.8170	6.3	250	2)	166	1750	1130	●
7043.8180	7	125	2)	210	1970	1360	●
7043.8190	8	125	3)	150	1520	100	●
7043.8200	10	250	3)	165	2150	38	●
7043.8210	12.5	250	4)	150	2500	70	●
7043.8220	16	250	4)	175	3700	330	●
7043.8230	20	250	4)	168	4500	1300	●

1) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 35 A @ 250 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 200 A @ 250 VAC , p.f. = 0.7 - 0.8

3) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8

4) 10 kA @ 125 VAC , p.f. = 0.7 - 0.8 / 1500 A @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

172582**250/125 VAC/DC · Quick-Acting F**GAM
T1 NNO**Description**

- High Breaking Capacity

Approvals**References**

General Product Information see page 383

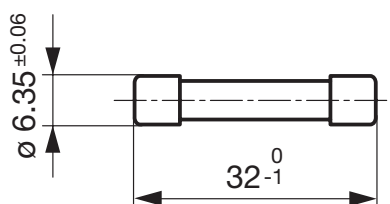
Time-Current Curves see page 188

Corresponding Fuseholder 231549P see page 284

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250/125 VAC/DC
Rated Current	0.16 - 20 A
Breaking Capacity	1 kA - 10 kA
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/56 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

DimensionsLength  6.3 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.7 x In max.	3.0 x In max.
0.16 A - 20 A	60 min	60 min	10 s

172582

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	GAM T1	NNO
7023.0790	0.16	250	125	1)	3000	770	0.0021	●	
7023.0810	0.25	250	125	1)	2290	870	0.0075	●	
7023.0830	0.4	250	125	1)	1800	1000	0.01	●	
7023.0850	0.63	250	125	1)	1050	1050	0.44	●	●
7023.0870	1	250	125	1)	770	1170	0.16	●	
7023.0890	1.6	250	125	1)	540	1350	0.74	●	●
7023.0910	2.5	250	125	1)	310	1150	4.8	●	●
7023.0930	4	250	125	1)	220	1300	24	●	
7023.0950	6.3	250	125	1)	310	3100	27	●	
7023.0960	8	250	125	1)	90	1050	9.3	●	
7023.0970	10	250	125	1)	85	1350	34	●	●
7023.0980	12.5	250	125	1)	90	1600	62		
7023.0990	16	250	125	1)	80	1900	160		
7023.0940	20	250	125	1)	75	2000	240		

1) 10 kA @ 250 VAC , p.f. = 0.7 - 0.8 / 1 kA @ 125 VDC

Packaging Unit Small Box Pack (10 pcs.)

D8STTD



220/125 VAC/DC · Time-Lag T



GAM
T1 NNO

Description
- High Breaking Capacity

Approvals

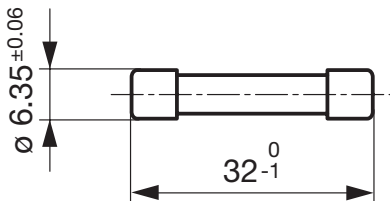
References
General Product Information see page 383
Time-Current Curves see page 194

Weblinks
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data	
Rated Voltage	220/125 VAC/DC
Rated Current	0.16 - 1.25 A
Breaking Capacity	50 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 55 °C
Climatic Category	40/055/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	2.8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions Length  6.3 mm



Pre-Arcing Time						
Rated Current In	1.1 x In min.	1.45 x In max.	3.0 x In min.	3.0 x In max.	5.0 x In min.	5.0 x In max.
0.16 A - 1.25 A	60 min	60 min	4 s	9 s	1 s	4 s

D8STTD

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	GAM T1	NNO
7035.7310	D8STTD	0.16	220	125	1)	1100	210	1.6	●	●
7035.7320	D8STTD	0.2	220	125	1)	1100	265	1.9	●	●
7035.7330	D8STTD	0.25	220	125	1)	570	180	1.4	●	●
7035.7340	D8STTD	0.31	220	125	1)	500	195	7.2	●	
7035.7350	D8STTD	0.4	220	125	1)	505	255	6.3	●	●
7035.7360	D8STTD	0.5	220	125	1)	450	285	1.9	●	●
7035.7370	D8STTD	0.63	220	125	1)	460	370	11	●	
7035.7380	D8STTD	0.8	220	125	1)	320	325	12	●	●
7035.7390	D8STTD	1	220	125	1)	405	515	15	●	●
7035.7410	D8STTD	1.25	220	125	1)	315	505	23	●	●

1) 5 kA @ 125 VAC/DC, p.f. 0.3 - 0.4 / 50 A @ 220 VAC, p.f. ≥ 0.9

Packaging Unit

Small Box Pack (10 pcs.)

A12TD



220/125 VAC/DC · Time-Lag T

GAM
T1 NNO

Description

- High Breaking Capacity

Approvals

References

General Product Information see page 383

Time-Current Curves see page 192

Weblinks

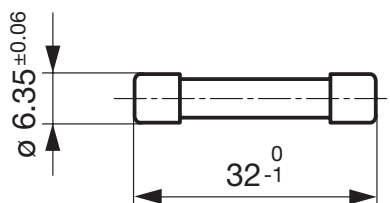
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	220/125 VAC/DC
Rated Current	1.6 - 30 A
Breaking Capacity	100 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 55 °C
Climatic Category	40/055/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	2.8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length  6.3 mm

Pre-Arcing Time

Rated Current In	1.1 x In min.	1.45 x In max.	3.0 x In min.	3.0 x In max.	5.0 x In min.	5.0 x In max.
1.6 A - 30 A	60 min	60 min	1 s	10 s	300 ms	3 s

A12TD

Variants

Order Number	Type	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting Pt 10.0 In typ [A²s]	GAM T1	NNO
7043.6110	A12TD	1.6	220	125	2)	240	485	47	●	●
7043.6120	A12TD	2	220	125	2)	210	530	85	●	●
7043.6130	A12TD	2.5	220	125	2)	165	520	87	●	●
7043.6140	A12TD	3.15	220	125	2)	500	1900	131	●	●
7043.6150	A12TD	4	220	125	2)	180	925	590	●	●
7043.6160	A12TD	5	220	125	2)	190	1150	320	●	●
7043.6170	A12TD	6.3	220	125	2)	140	1150	1200	●	●
7043.6180	A12TD	8	220	125	2)	150	1450	560	●	
7043.6490	A12TD	10	220	125	2)	205	2600	250		●
7043.6210	A12TD	12.5	220	125	2)	110	1700	1200		●
7043.6220	A12TD	16	220	125	2)	90	1750	4500		
7043.6650	A12TD	20	220	125	2)	200	5800	280		
7043.6670	A12TD	30	220	125	2)	150	6500	2250		

2) 5 kA @ 125 VAC/DC / 100 A @ 220 VAC

Packaging Unit

Small Box Pack (10 pcs.)

D0



125 VAC · Quick-Acting F



GAM
T1 NNO

Description

- Low Breaking Capacity

Approvals

References

General Product Information see page 383
Time-Current Curves see page 192
Corresponding Fuseholder 231600P see page 306

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

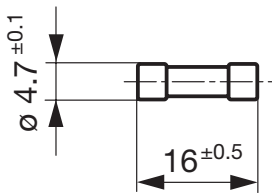
Technical Data

Rated Voltage	125 VAC
Rated Current	0.063 - 10 A
Breaking Capacity	35 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/56 acc. to IEC 60068-1
Material: Tube	Glass
Unit Weight	1.1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
-------------------------	---

Dimensions

Length  4.7 mm



Pre-Arcing Time

Rated Current In	1.1 x In min.	1.7 x In max.	3.0 x In max.
0.063 A - 10 A	60 min	60 min	200 ms

D0

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.1 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	GAM T1	NNO
7010.2110	0.063	125	1)	1900	140	0.00044		
7010.2120	0.08	125	1)	1400	150	0.001		
7010.2130	0.1	125	1)	1200	155	0.0015	●	●
7010.2150	0.15	125	1)	960	190	0.0067	●	●
7010.2170	0.2	125	1)	870	240	0.012	●	●
7010.2180	0.25	125	1)	795	270	0.025	●	●
7010.2190	0.31	125	1)	825	360	0.036	●	●
7010.2210	0.4	125	1)	1950	955	0.03	●	
7010.2220	0.5	125	1)	1500	905	0.079	●	●
7010.2230	0.63	125	1)	2200	1650	0.092	●	●
7010.2240	0.75	125	1)	1700	1550	0.13	●	●
7010.2260	1	125	1)	275	385	0.2	●	●
7010.2410	1.5	125	1)	270	560	0.63	●	●
7010.2430	2	125	1)	175	470	1.2	●	●
7010.2440	2.5	125	1)	155	515	3.4	●	●
7010.2450	3	125	1)	155	610	4.8	●	●
7010.2470	4	125	1)	210	1160	7.8	●	●
7010.2480	5	125	1)	145	935	14	●	●
7010.2610	6.3	125	1)	130	1040	31	●	
7010.2620	8	125	1)	100	1060	68		
7010.2630	10	125	1)	120	1480	110		●

1) 35 A @ 125 VAC , p.f. ≥ 0.9

Packaging Unit Small Box Pack (10 pcs.)

A3BK

UL 248-14 · 300 VAC · Quick-Acting F

**Description**

- High Breaking Capacity

Standards

- UL 248-14

- CSA C22.2 no. 248.14

Approvals

- UL File Number: E42088

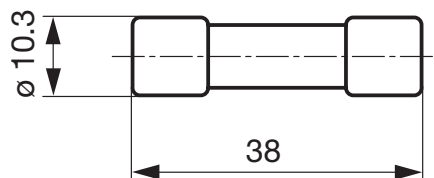
References

General Product Information see page 383

Time-Current Curves see page 192

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	250 - 300 VAC
Rated Current	0.125 - 50 A
Breaking Capacity	10000 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Tin-Plated Copper
Unit Weight	9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Voltage Rating, Breaking Capacity, Approvals

DimensionsLength  10.3 mm**Pre-Arcing Time**

Rated Current In	1.1 x In min.	1.35 x In max.	2.0 x In max.
0.125 A - 50 A	60 min	60 min	120 s

A3BK

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]		
7024.9110	0.125	300	1)	2370	●	
7024.9120	0.16	300	1)	2600	●	
7024.9130	0.2	300	1)	2200	●	
7024.9140	0.25	300	1)	1760	●	
7024.9150	0.31	300	1)	1600	●	
7024.9160	0.4	300	1)	2380	●	
7024.9170	0.5	300	1)	2750	●	
7024.9180	0.63	300	1)	2500	●	
7024.9190	0.8	300	1)	580	●	
7024.9210	1	300	1)	900	●	
7024.9220	1.25	300	1)	1100	●	●
7024.9230	1.6	300	1)	460	●	●
7024.9240	2	300	1)	400	●	●
7024.9250	2.5	300	1)	380	●	●
7024.9260	3.15	300	1)	350	●	●
7024.9270	4	300	1)	260	●	●
7024.9280	5	300	1)	550	●	●
7024.9290	6.3	300	1)	560	●	●
7024.9310	8	300	1)	270	●	●
7024.9320	10	300	1)	90	●	●
7024.9330	12.5	300	1)	90	●	●
7024.9340	15	300	1)	80	●	●
7024.9350	16	250	2)	75		
7024.9360	20	250	2)	75		
7024.9380	30	250	2)	80		
7024.9390	40	250	2)	120		
7024.9400	50	250	2)	115		

1) 10 kA @ 300 VAC , p.f. = 0.7 - 0.8

2) 10 kA @ 250 VAC , p.f. = 0.7 - 0.8

Packaging Unit

Small Box Pack (10 pcs.)

D20K



250 VAC · Quick-Acting F

NNO

Description

- Low Breaking Capacity

Approvals

References

General Product Information see page 383
Time-Current Curves see page 193

Weblinks

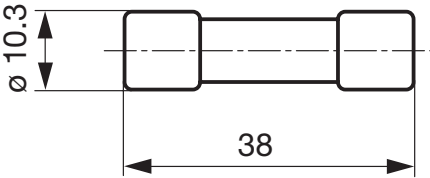
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC
Rated Current	0.4 - 30 A
Breaking Capacity	100 A - 4000 A
Characteristic	Quick-Acting F
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 70 °C
Climatic Category	40/070/56 acc. to IEC 60068-1
Material: Terminals	Nickel-Plated Copper Alloy
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper
Unit Weight	9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Current Rating

Dimensions

Length  10.3 mm



Pre-Arcing Time

Rated Current In	1.1 x In min.	1.3 x In max.	3.0 x In max.
0.4 A - 30 A	60 min	60 min	1 s

D20K

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7017.5150	0.4	250	1)	4200	●
7017.5120	0.5	250	1)	3600	●
7017.5130	0.63	250	1)	2400	●
7017.5140	0.8	250	1)	2300	●
7017.5210	1	250	1)	2600	●
7017.5220	1.25	250	1)	440	●
7017.5230	1.6	250	1)	630	●
7017.5240	2	250	1)	460	●
7017.5250	2.5	250	2)	360	●
7017.5260	3.15	250	2)	340	●
7017.5270	4	250	2)	230	●
7017.5280	5	250	2)	270	●
7017.5290	6.3	250	3)	220	●
7017.5310	8	250	3)	200	●
7017.5320	10	250	3)	180	●
7017.5330	12.5	250	4)	170	●
7017.5340	15	250	4)	150	●
7017.5350	16	250	4)	160	●
7017.5360	20	250	4)	100	●
7017.5370	25	250	4)	90	●
7017.5380	30	250	4)	100	●

1) 500 A @ 250 VAC , p.f. ≥ 0.9 / 4 kA @ 125 VAC , p.f. ≥ 0.9

2) 100 A @ 250 VAC , p.f. ≥ 0.9 / 4 kA @ 125 VAC , p.f. ≥ 0.8

3) 100 A @ 250 VAC , p.f. ≥ 0.9 / 500 A @ 125 VAC , p.f. ≥ 0.9

4) 100 A @ 250 VAC , p.f. ≥ 0.9 / 300 A @ 125 VAC , p.f. ≥ 0.9

Packaging Unit Small Box Pack (10 pcs.)

D20TD**NF C 93-435 · 250 VAC · Super-Time-Lag TT****NNO****Description**

- Low Breaking Capacity

Standards

- NF C 93-435 - Modell HA29

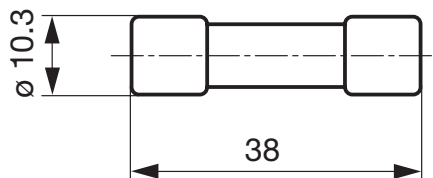
Approvals**References**

General Product Information see page 383

Time-Current Curves see page 193

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	125 - 250 VAC
Rated Current	0.2 - 50 A
Breaking Capacity	300 A - 500 A
Characteristic	Super-Time-Lag TT
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 55 °C
Climatic Category	40/055/56 acc. to IEC 60068-1
Material: Terminals	Nickel-Plated Copper Alloy
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper
Unit Weight	9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 HA29, Current Rating, Characteristic

DimensionsLength  10.3 mm**Pre-Arcing Time**

Rated Current I_n	1.1 x I_n min.	1.45 x I_n max.	3.0 x I_n min.	3.0 x I_n max.	5.0 x I_n min.	5.0 x I_n max.
0.2 A - 6.3 A	60 min	60 min	4 s	9 s	500 ms	4 s
8 A - 50 A	60 min	60 min	4 s	20 s	2 s	6 s

D20TD

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7037.1110	0.2	250	1)	1700	●
7037.1120	0.31	250	1)	650	●
7037.1130	0.4	250	1)	840	●
7037.1140	0.5	250	1)	680	●
7037.1150	0.63	250	1)	490	●
7037.1160	0.8	250	1)	450	●
7037.1170	1	250	1)	365	●
7037.1210	1.25	250	1)	310	●
7047.1110	1.6	250	2)	620	●
7047.1210	2	250	2)	480	●
7047.1220	2.5	250	2)	430	●
7047.1230	3.15	250	2)	295	●
7047.1240	4	250	2)	250	●
7047.1250	5	250	2)	200	●
7047.1260	6.3	250	2)	190	●
7047.1270	8	250	2)	200	●
7047.1280	10	250	2)	160	●
7047.1290	12.5	250	2)	160	●
7047.1310	15	250	2)	110	●
7047.1330	20	250	2)	95	●
7047.1340	25	250	2)	80	●
7047.1350	30	125	2)	75	●
7047.1410	40	125		50	●
7047.1420	45	125		55	●
7047.1430	50	125		45	●

1) 500 A @ 250 VAC , p.f. $\geq$ 0.9 / 500 A @ 125 VAC , p.f. = 0.7 - 0.82) 300 A @ 250 VAC , p.f. $\geq$ 0.9 / 500 A @ 125 VAC , p.f. = 0.7 - 0.8
Packaging Unit Small Box Pack (10 pcs.)

A10 gG**IEC 60269-2 · 500 VAC****Description**

- "gG" indicated fuse-links with a full-range breaking capacity for general application

Standards

- IEC 60269-2-1
- NF C 63-210

Approvals**Applications**

- Industrial electronic

References

General Product Information see page 383
Time-Current Curves see page 190

Weblinks

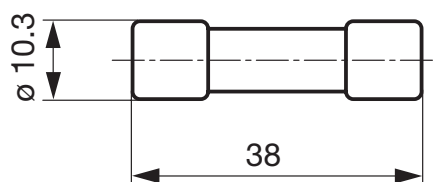
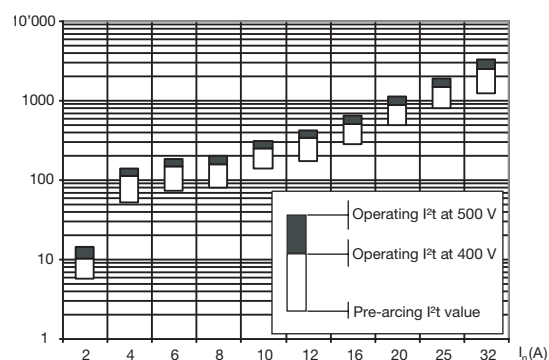
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	400 - 500 VAC
Rated Current	0.5 - 32 A
Breaking Capacity	120 kA
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	Silver-Plated Copper Alloy
Material: Tube	Ceramic
Unit Weight	8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Breaking Capacity

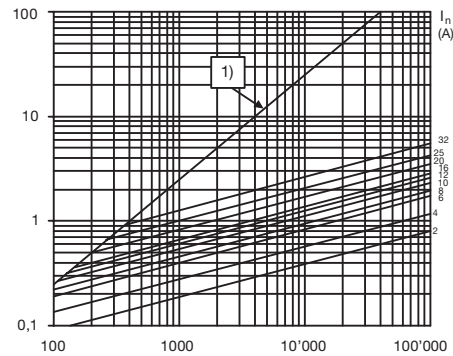
Dimensions

Length  10.3 mm

**I²t Characteristik**

A10 gG

Peak Let-Thru Current Data



1) Asymmetrical Short Circuit $2.55 \cdot I_p$

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity	Power Dissipation 1.0 I _n typ [mW]
7181.4120	0.5	500	1)	
7181.4121	1	500	1)	270
7181.4122	2	500	1)	400
7181.4123	4	500	1)	600
7181.4124	6	500	1)	850
7181.4125	8	500	1)	1000
7181.4126	10	500	1)	1200
7181.4127	12	500	1)	1400
7181.4128	16	500	1)	1600
7181.4129	20	500	1)	1900
7181.4130	25	500	1)	2300
7181.4131	32	400	2)	2900

1) 120 kA @ 500 VAC
2) 120 kA @ 400 VAC

Packaging Unit Small Box Pack (10 pcs.)

A10 aM**IEC 60269-2 · 500 VAC****Description**

- "aM" indicated fuse-links with a partial range breaking capacity for the protection of motor circuits

Standards

- IEC 60269-2-1
- NF C 63-210

Approvals**Applications**

- Industrial electronic

References

General Product Information see page 383
Time-Current Curves see page 190

Weblinks

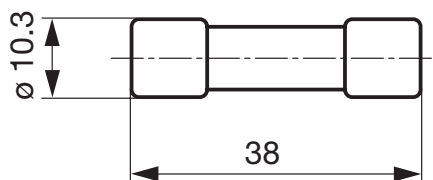
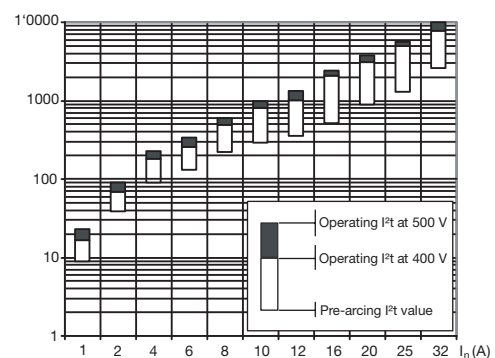
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	400 - 500 VAC
Rated Current	0.16 - 32 A
Breaking Capacity	120 kA
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	Silver-Plated Copper Alloy
Material: Tube	Ceramic
Unit Weight	8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating, Breaking Capacity

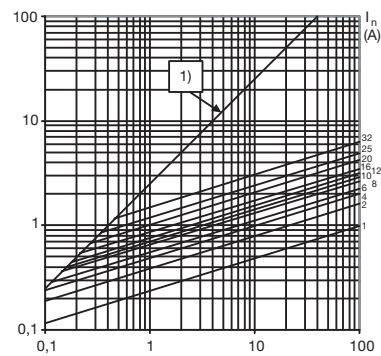
Dimensions

Length  10.3 mm

**I²t Charakteristik**

A10 aM

Peak Let-Thru Current Data



1) Asymmetrical Short Circuit 2.55 * I_p

Variants

Order Number	Rated Cur- rent [A]	Rated Vol- tage [V]	Breaking Capacity	Power Dissi- pation 1.0 I _n typ [mW]
7181.4100	0.16	500	1)	
7181.4101	0.25	500	1)	
7181.4102	0.5	500	1)	
7181.4103	1	500	1)	100
7181.4104	2	500	1)	200
7181.4105	4	500	1)	300
7181.4106	6	500	1)	400
7181.4107	8	500	1)	500
7181.4108	10	500	1)	600
7181.4109	12	500	1)	700
7181.4110	16	500	1)	800
7181.4111	20	500	1)	1200
7181.4112	25	400	1)	1600
7181.4113	32	400	1)	2000

1) 120 kA @ 500 VAC
2) 120 kA @ 400 VAC

Packaging Unit Small Box Pack (10 pcs.)

MA**DTCN · 500/250 VAC/DC · Quick-Acting F****GAM**
T1 NNO**Description**

- High Breaking Capacity

Standards

- DTCN: T/5920 CC

Approvals**References**

General Product Information see page 383

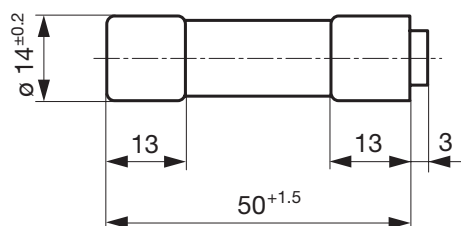
Time-Current Curves see page 199

Corresponding Fuseholder 23162 see WEB

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Rated Voltage	500/250 VAC/DC
Rated Current	0.5 - 40 A
Breaking Capacity	10 kA - 100 kA
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-40 °C to 55 °C
Climatic Category	40/055/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	25 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	HA32, Type, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

DimensionsLength  14 mm**Pre-Arcing Time**

Rated Current In	1.25 x In min.	1.55 x In max.	3.0 x In max.
0.5 A - 40 A	60 min	60 min	3 s

MA

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	GAM T1	NNO
7020.8510	0.5	500	250	1)	2400	●	●
7020.8520	1	500	250	1)	1400	●	●
7020.6530	2	500	250	1)	500	●	●
7020.8540	4	500	250	1)	450	●	●
7020.8550	6	500	250	1)	300	●	●
7020.8560	10	500	250	1)	250	●	●
7020.8570	15	500	250	1)	150	●	●
7020.8580	20	500	250	1)	120	●	●
7020.8590	30	500	250	1)	120	●	●
7020.8610	40	500	380	1)	100	●	●

1) 100 kA @ 500 VAC , p.f. ≥ 0.3 / 10 kA @ 250 VDC , L/R < 10 ms

Packaging Unit Small Box Pack (10 pcs.)

MC



380 VDC · Quick-Acting F

NN0

Description

- High Breaking Capacity

Approvals

References

General Product Information see page 383
Time-Current Curves see page 200
Corresponding Fuseholder 231756R see WEB

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

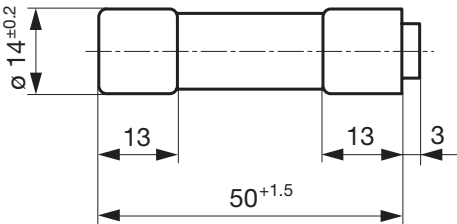
Technical Data

Rated Voltage	380 VDC
Rated Current	0.5 - 50 A
Breaking Capacity	85 kA
Characteristic	Quick-Acting F
Admissible Ambient Air Temp.	-5 °C to 70 °C
Climatic Category	5/070/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	30 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating

Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-610 Phase 1-2-3-5

Dimensions

Length  14 mm



Pre-Arcing Time

Rated Current In	1.25 x In min.	1.8 x In max.	3.0 x In max.
0.5 A - 50 A	60 min	60 min	25 s

MC

Variants

Order Number	Rated Current [A]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	Melting I ² t 10.0 In typ [A ² s]	NNO
7020.8010	0.5	380	1)	2500	0.38	●
7020.8020	1	380	1)	1500	0.2	●
7020.8030	2	380	1)	500	1.6	●
7020.8040	4	380	1)	350	16	●
7020.8050	6	380	1)	250	36	●
7020.8060	10	380	1)	100	200	●
7020.8070	15	380	1)	100	400	●
7020.8080	20	380	1)	220	500	●
7020.8090	30	380	1)	165	160	●
7020.8100	40	380	1)	120	6500	●
7020.8110	50	380	1)	100	13000	●

1) 85 kA @ 456 VDC , L/R = 15 - 20 ms

Packaging Unit

Small Box Pack (10 pcs.)

MAM

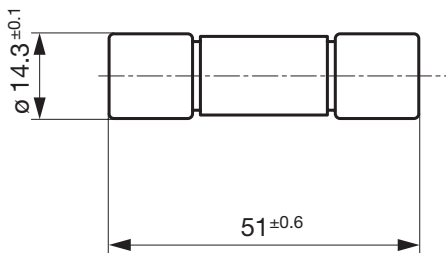


500 VAC

Description - High Breaking Capacity	Applications - Motor overload
Approvals	References General Product Information see page 383 Time-Current Curves see page 199
	Weblinks Approvals: http://www.schurter.com/approvals RoHS: http://www.schurter.com/rohs

Technical Data	
Rated Voltage	500 VAC
Rated Current	1 - 40 A
Breaking Capacity	50 kA - 100 kA
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	25 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating

Dimensions Length  14.3 mm



Pre-Arcing Time

Rated Current In	4.0 x In min.	6.3 x In max.	8.0 x In min.	10.0 x In min.	12.5 x In max.	25.0 x In max.	50.0 x In max.
1 A - 40 A	60 s	60 s	500 ms	200 ms	500 ms	40 ms	9 ms

MAM

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Breaking Capacity
7025.4010	1	500	1)
7025.4020	2	500	1)
7025.430	4	500	1)
7025.4040	6	500	1)
7025.4050	8	500	1)
7025.4060	10	500	1)
7025.4070	12	500	1)
7025.4080	16	500	1)
7025.4090	20	500	1)
7025.4100	25	500	1)
7025.4110	32	500	2)
7025.4120	40	500	2)

1) 100 kA @ 500 VAC , p.f. $\geq$ 0.152) 50 kA @ 500 VAC , p.f. $\geq$ 0.3
Packaging Unit Small Box Pack (10 pcs.)

MADM



DTCN · 500/250 VAC/DC

NNO

Description

- High Breaking Capacity

Standards

- NF C 63-210 / NF C 63-211
- DTCN: T/5920 DA

Approvals

References

General Product Information see page 383
Time-Current Curves see page 199

Weblinks

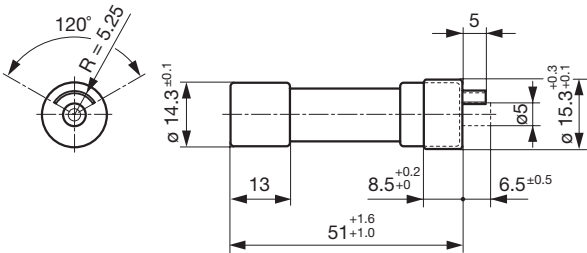
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	500/250 VAC/DC
Rated Current	1 - 25 A
Breaking Capacity	100 kA
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	25 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Current Rating, Voltage Rating

Dimensions

Length | 14.3 mm



Pre-Arcing Time

Rated Current In	4.0 x In min.	6.3 x In max.	8.0 x In min.	10.0 x In min.	12.5 x In max.	25.0 x In max.	50.0 x In max.
1 A - 25 A	60 s	60 s	500 ms	200 ms	500 ms	40 ms	9 ms

MADM

Variants

Order Number	Rated Cur- rent [A]	Rated Vol- tage [V]	Rated Vol- tage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	NNO
7020.9110	1	500	250	1)	110	●
7020.9120	1.6	500	250	1)	80	●
7020.9130	2.5	500	250	1)	70	●
7020.9140	5	500	250	1)	75	●
7020.9150	8	500	250	1)	70	●
7020.9160	12.5	500	250	1)	70	●
7020.9170	20	500	250	1)	75	●

1) 100 kA @ 500 VAC , p.f. ≥ 0.15 / 10 kA @ 250 VDC , L/R < 10 ms

Packaging Unit

Small Box Pack (10 pcs.)

MAT



DTCN · 500/250 VAC/DC · Time-Lag T

GAM
T1 NNO

Description

- High Breaking Capacity

Standards

- DTCN: T/5920 CC

Approvals

References

General Product Information see page 383
Time-Current Curves see page 199

Weblinks

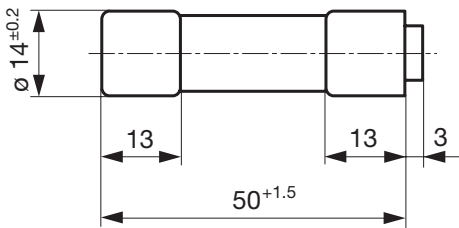
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	500/250 VAC/DC
Rated Current	1 - 20 A
Breaking Capacity	100 kA
Characteristic	Time-Lag T
Admissible Ambient Air Temp.	-40 °C to 55 °C
Climatic Category	40/055/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Unit Weight	25 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating

Dimensions

Length  14 mm



Pre-Arcing Time

Rated Current In	1.25 x In min.	1.65 x In max.	2.0 x In min.	5.0 x In min.	5.0 x In max.	10.0 x In min.	10.0 x In max.
1 A - 20 A	60 min	60 min	2.5 s	30 ms	2.5 s	8 ms	200 ms

MAT

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 In typ [mV]	GAM T1	NNO
7025.5110	1	500	250	1)	1600	●	●
7025.5120	2	500	250	1)	600	●	●
7025.5130	4	500	250	1)	680	●	●
7025.5140	6	500	250	1)	420	●	●
7025.5150	10	500	250	1)	110	●	●
7025.5170	15	500	250	1)	105		
7025.5160	20	500	250	1)	100		

1) 100 kA @ 500 VAC , p.f. ≥ 0.15 / 10 kA @ 250 VDC , L/R < 10 ms

Packaging Unit Small Box Pack (10 pcs.)

FUSE KITS

NON RESETTABLE FUSES



Fuse Kit OMF Fuses



OMF 63 / OMF 125



OMH 125



OMF 250

Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9877	Fuse Kit OMF Fuses	3402.0004.11 / 3404.0004.11	OMF 63 / OMF125	100 mA	5 each
		3402.0006.11 / 3404.0006.11	OMF 63 / OMF125	250 mA	5 each
		3402.0008.11 / 3404.0008.11	OMF 63 / OMF125	630 mA	5 each
		3402.0009.11 / 3404.0009.11	OMF 63 / OMF125	1 A	5 each
		3402.0011.11 / 3404.0011.11	OMF 63 / OMF125	1.6 A	5 each
		3402.0012.11 / 3404.0012.11	OMF 63 / OMF125	2 A	5 each
		3402.0015.11 / 3404.0015.11	OMF 63 / OMF125	3.5 A	5 each
		3402.0017.11 / 3404.0017.11	OMF 63 / OMF125	5 A	5 each
		0031.7701.11	Fuseholder OMH 125	5 A	10
		3403.0013.11	OMF 250	500 mA	5
		3403.0015.11	OMF 250	800 mA	5
		3403.0016.11	OMF 250	1 A	5
		3403.0017.11	OMF 250	1.25 A	5
		3403.0018.11	OMF 250	1.6 A	5
		3403.0019.11	OMF 250	2 A	5
		3403.0021.11	OMF 250	3.15 A	5
		3403.0022.11	OMF 250	4 A	5

FUSE KITS

NON RESETTABLE FUSES



Fuse Kit Microfuses



Microfuse MST 250



Fuseholder FMS 250

Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9876	Fuse Kit Microfuses	0034.6603	MST 250	63 mA	10
		0034.6604	MST 250	80 mA	10
		0034.6607	MST 250	160 mA	10
		0034.6610	MST 250	315 mA	10
		0034.6612	MST 250	500 mA	10
		0034.6615	MST 250	1 A	10
		0034.6616	MST 250	1.25 A	10
		0034.6618	MST 250	2 A	10
		0034.6620	MST 250	3.15 A	10
		0034.6001	MSF 250	50 mA	10
		0034.6003	MSF 250	80 mA	10
		0034.6009	MSF 250	315 mA	10
		0034.6011	MSF 250	500 mA	10
		0034.6014	MSF 250	1 A	10
		0034.6017	MSF 250	2 A	10
		0034.6019	MSF 250	3.15 A	10
		0034.6020	MSF 250	5 A	10
		0031.7601	Fuseholder FMS	5 A	10

FUSE KITS

NON RESETTABLE FUSES



Fuse Kits Miniature Fuses 5 x 20



FSF / FST 5 x 20



SP / SPT 5 x 20

Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9856	Fuse Kit FSF 5 x 20	0034.1506	FSF 5 x 20	100 mA	15
		0034.1508	FSF 5 x 20	160 mA	15
		0034.1509	FSF 5 x 20	200 mA	15
		0034.1510	FSF 5 x 20	250 mA	15
		0034.1511	FSF 5 x 20	315 mA	15

Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9857	Fuse Kit FST 5 x 20	0034.3113	FST 5 x 20	400 mA	15
		0034.3114	FST 5 x 20	500 mA	15
		0034.3115	FST 5 x 20	630 mA	15
		0034.3116	FST 5 x 20	800 mA	15
		0034.3117	FST 5 x 20	1 A	15
		0034.3118	FST 5 x 20	1.25 A	15
		0034.3119	FST 5 x 20	1.6 A	15
		0034.3120	FST 5 x 20	2 A	15
		0034.3121	FST 5 x 20	2.5 A	15
		0034.3123	FST 5 x 20	4 A	15
		0034.3124	FST 5 x 20	5 A	15
		0034.3125	FST 5 x 20	6.3 A	15
		0034.3127	FST 5 x 20	10 A	15

Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9858	Fuse Kit SP/FST 5 x 20	0001.1004	SP 5 x 20	1 A	15
		0001.1009	SP 5 x 20	3.15 A	30
		0001.1012	SP 5 x 20	6.3 A	30
		0001.1014	SP 5 x 20	10 A	30
		0034.3114	FST 5 x 20	500 mA	15
		0034.3117	FST 5 x 20	1 A	15
		0034.3118	FST 5 x 20	1.25 A	15
		0034.3119	FST 5 x 20	1.6 A	15
		0034.3120	FST 5 x 20	2 A	15
		0034.3121	FST 5 x 20	2.5 A	15
		0034.3122	FST 5 x 20	3.15 A	15
		0034.3125	FST 5 x 20	6.3 A	15
		0034.3127	FST 5 x 20	10 A	15

FUSE KITS

NON RESETTABLE FUSES



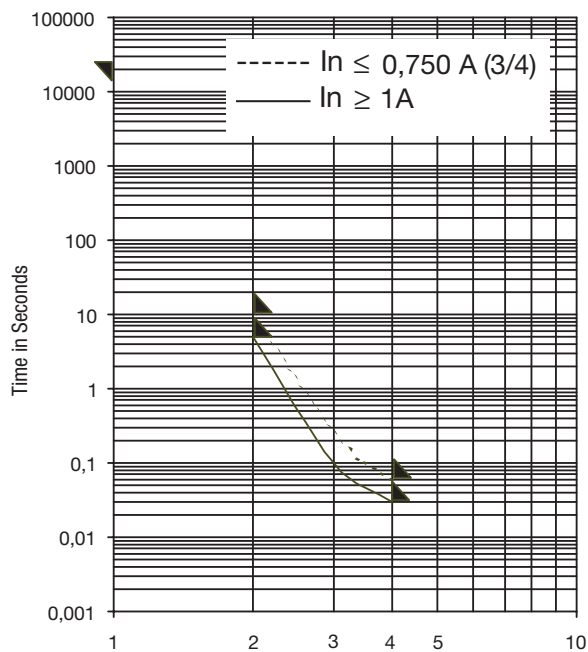
Variants

Order Number	Type	Fuse-Link	Fuse-Link Type	Rating	Quantity
0034.9871	Fuse Kit SP/SPT 5 x 20	0001.1003	SP 5 x 20	800 mA	10
		0001.1004	SP 5 x 20	1 A	10
		0001.1006	SP 5 x 20	1.6 A	10
		0001.1007	SP 5 x 20	2 A	10
		0001.1008	SP 5 x 20	2.5 A	10
		0001.1009	SP 5 x 20	3.15 A	10
		0001.1011	SP 5 x 20	5 A	10
		0001.1012	SP 5 x 20	6.3 A	10
		0001.1014	SP 5 x 20	10 A	10
		0001.2504	SPT 5 x 20	800 mA	10
		0001.2504	SPT 5 x 20	1 A	10
		0001.2506	SPT 5 x 20	1.6 A	10
		0001.2507	SPT 5 x 20	2 A	10
		0001.2508	SPT 5 x 20	2.5 A	10
		0001.2509	SPT 5 x 20	3.15 A	10
		0001.2511	SPT 5 x 20	5 A	10
		0001.2512	SPT 5 x 20	6.3 A	10
		0001.2514	SPT 5 x 20	10 A	10

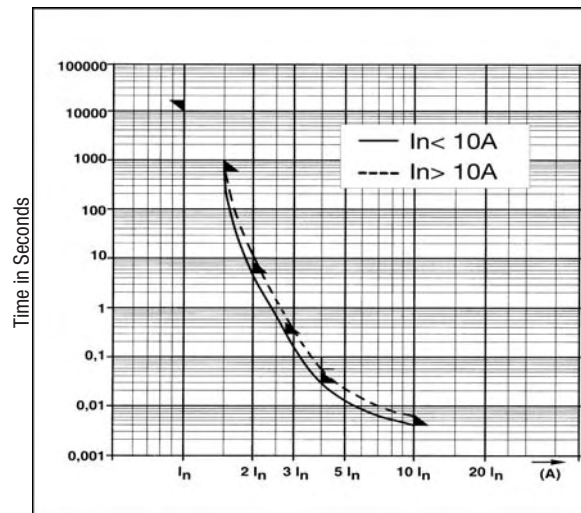
TIME-CURRENT CURVES

NON RESETTABLE FUSES

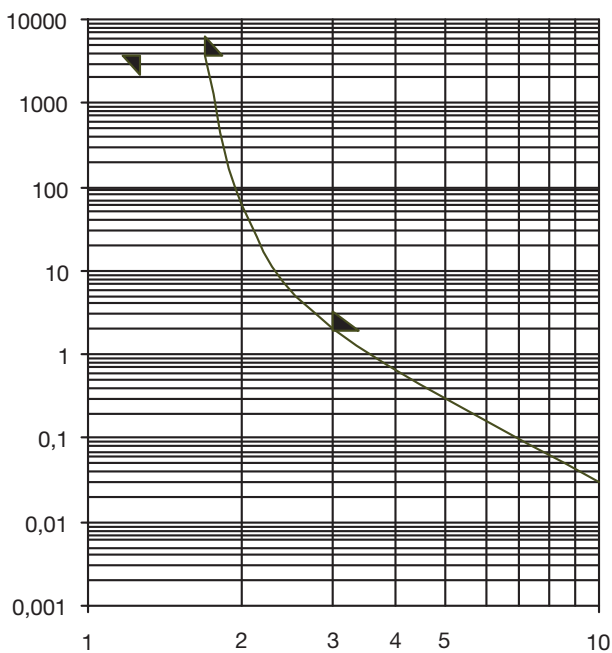
172321

Multiple of Rated Current I_n

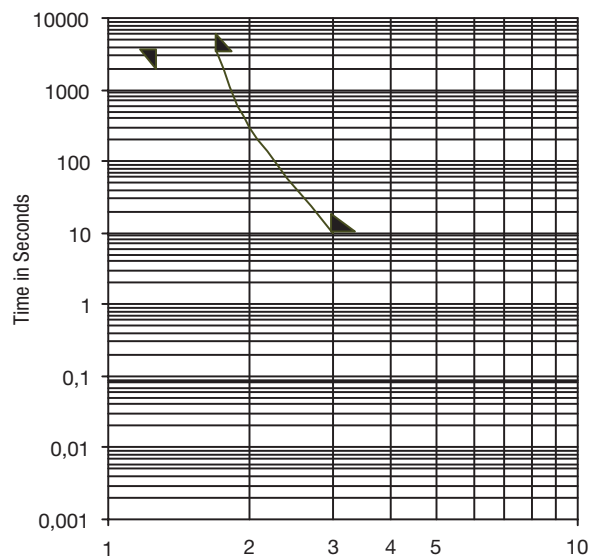
172322

Multiple of Rated Current I_n

172581



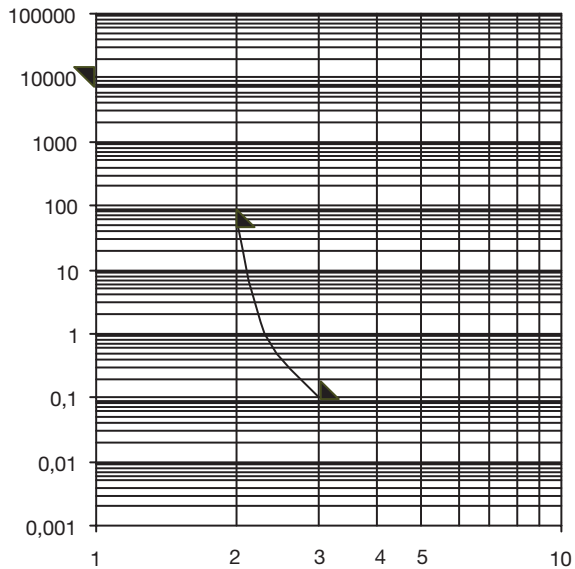
172582

Multiple of Rated Current I_n

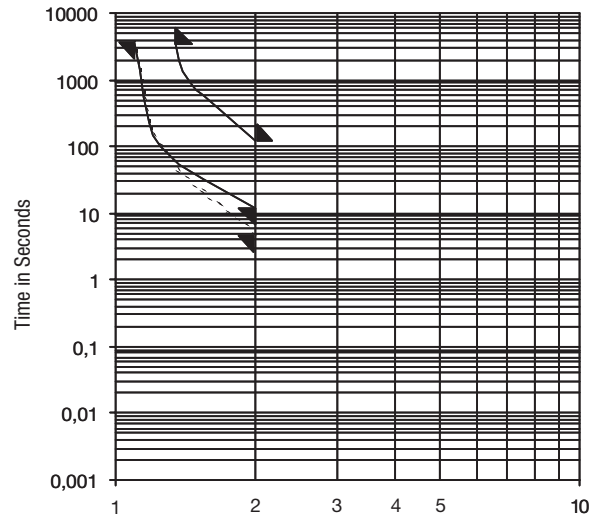
TIME-CURRENT CURVES

NON RESETTABLE FUSES

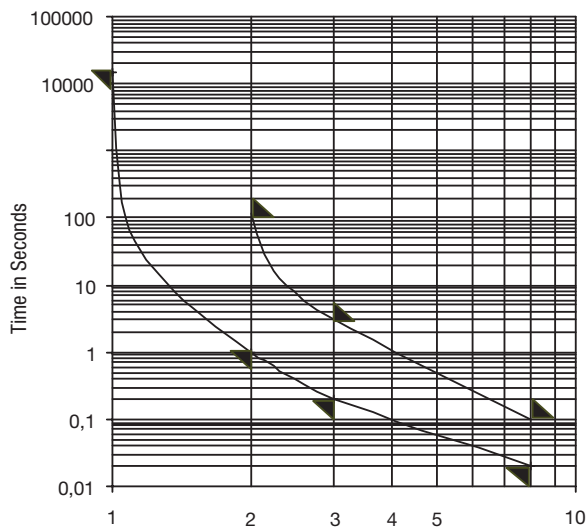
172593



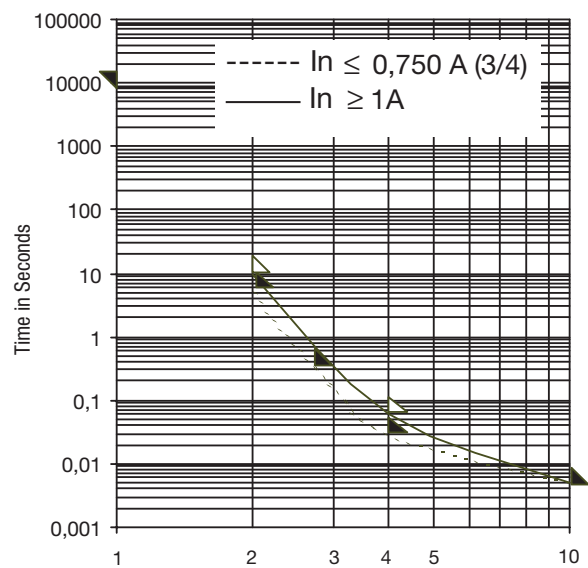
172600

Multiple of Rated Current I_n

172844

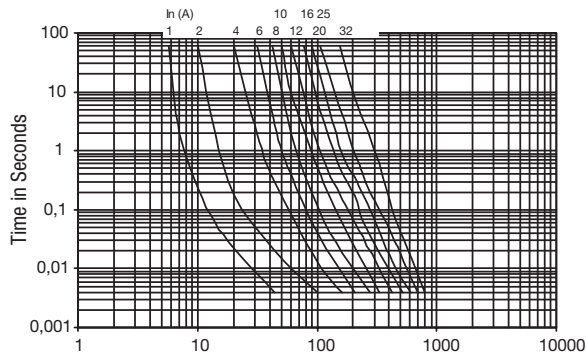
Multiple of Rated Current I_n

172876

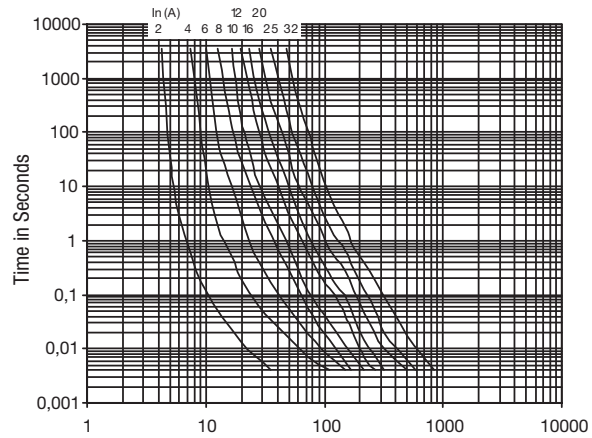
Multiple of Rated Current I_n

TIME-CURRENT CURVES

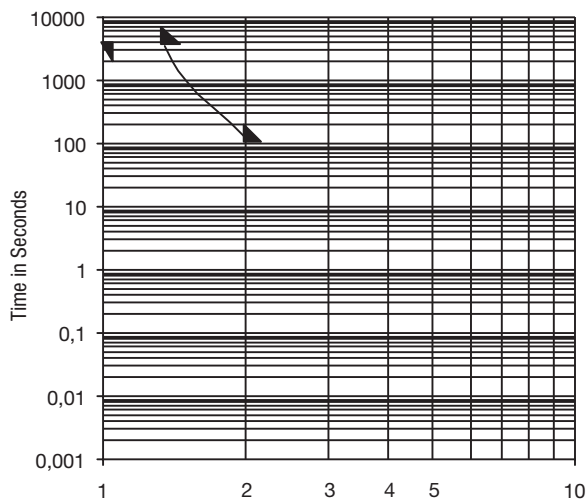
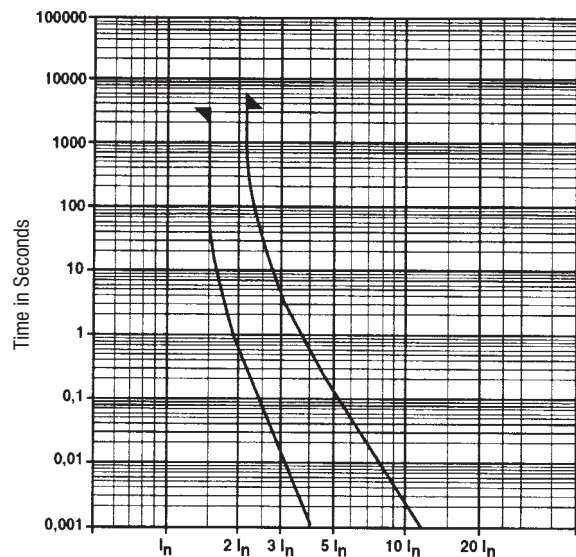
NON RESETTABLE FUSES

A10 aM**A10 gG**

Current in Amperes

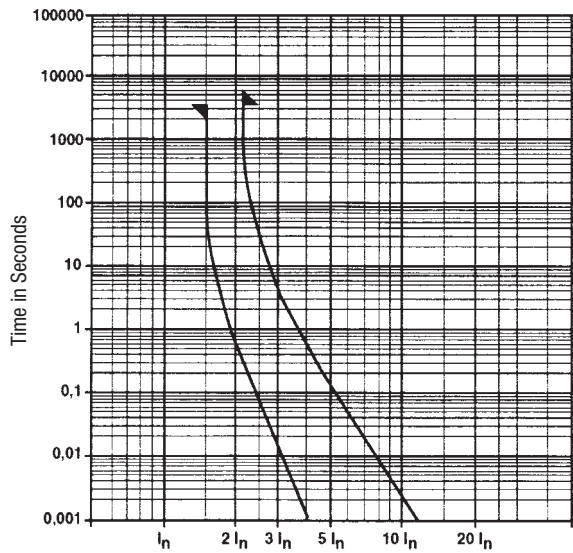
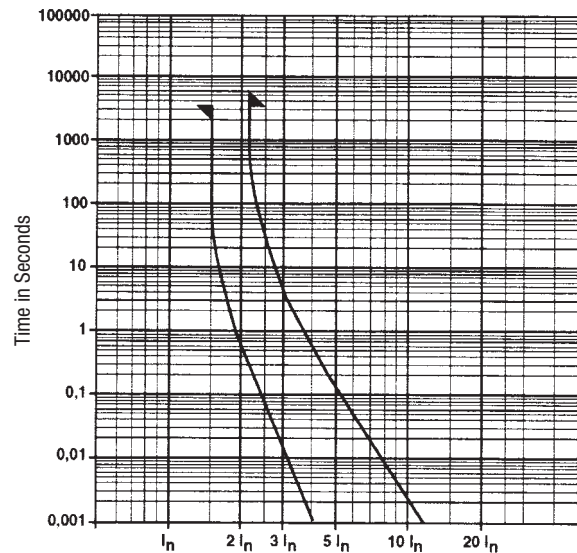
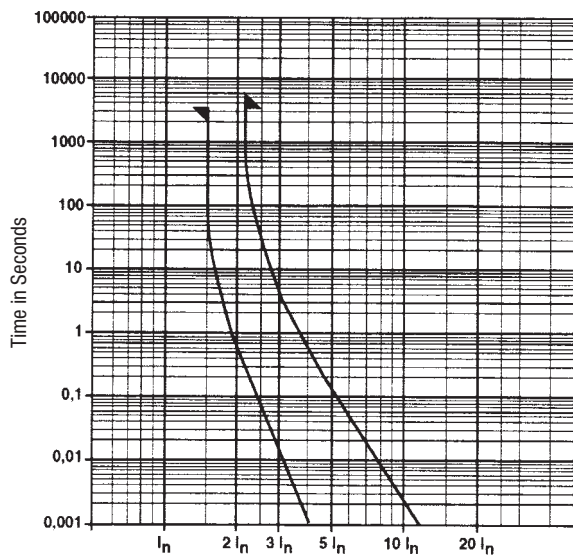
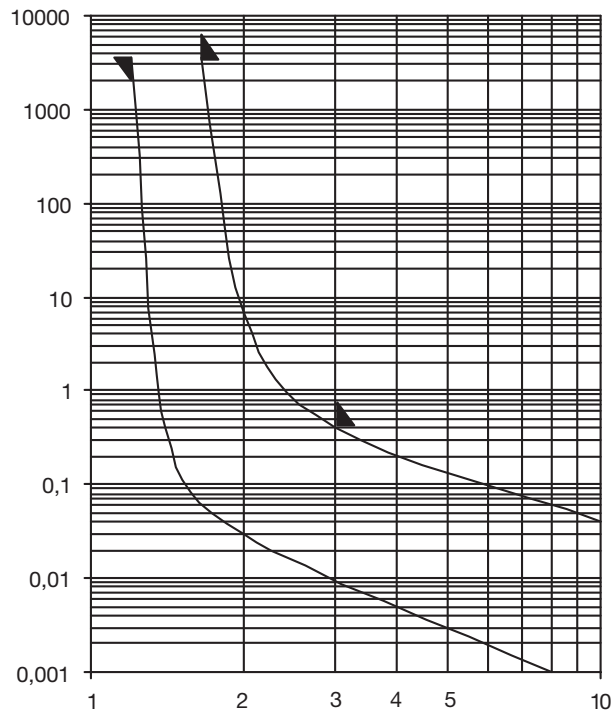


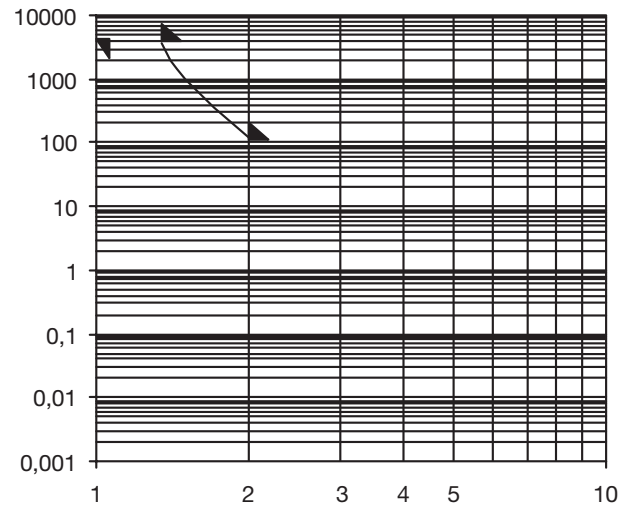
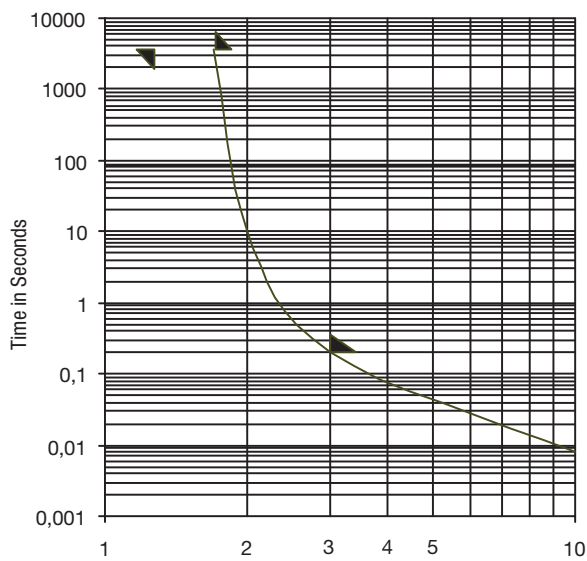
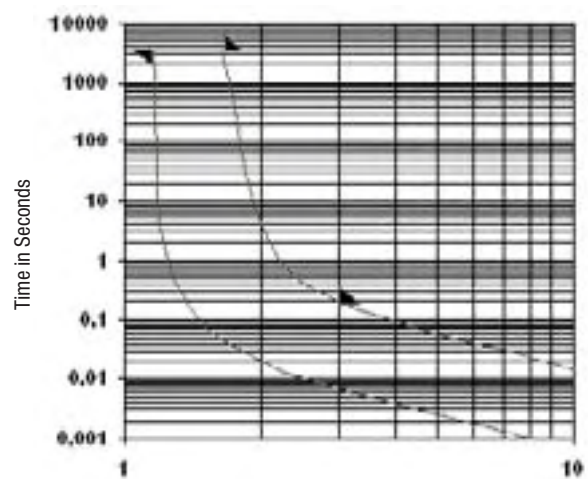
Current in Amperes

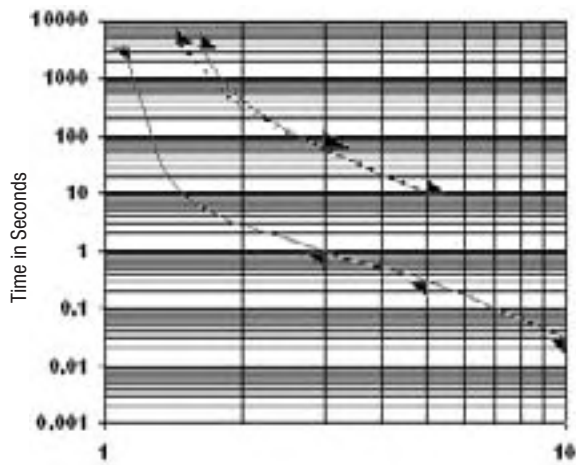
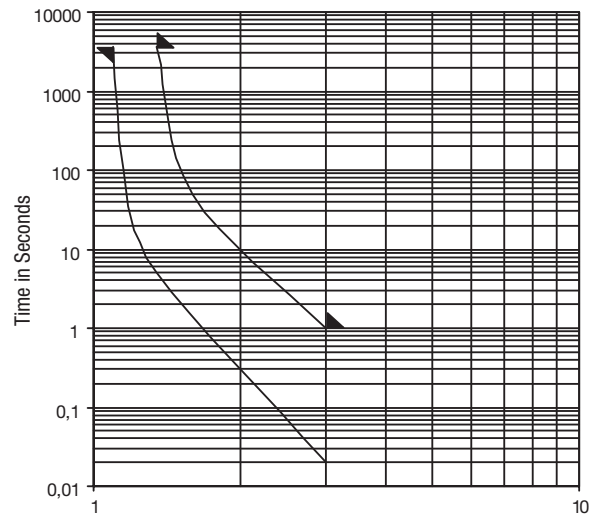
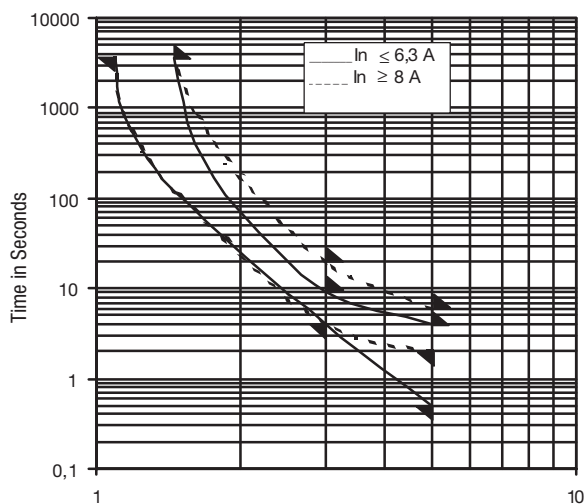
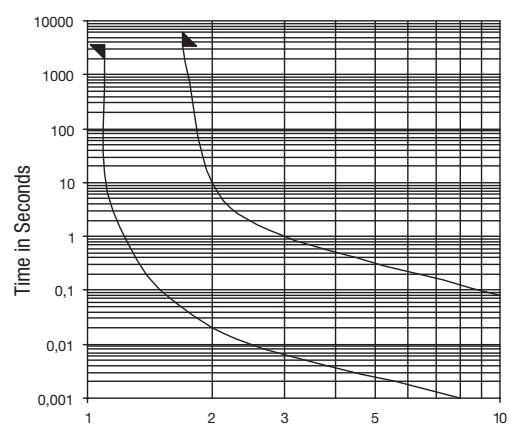
A12BK**A12FA 250V**Multiple of Rated Current I_n Multiple of Rated Current I_n

TIME-CURRENT CURVES

NON RESETTABLE FUSES

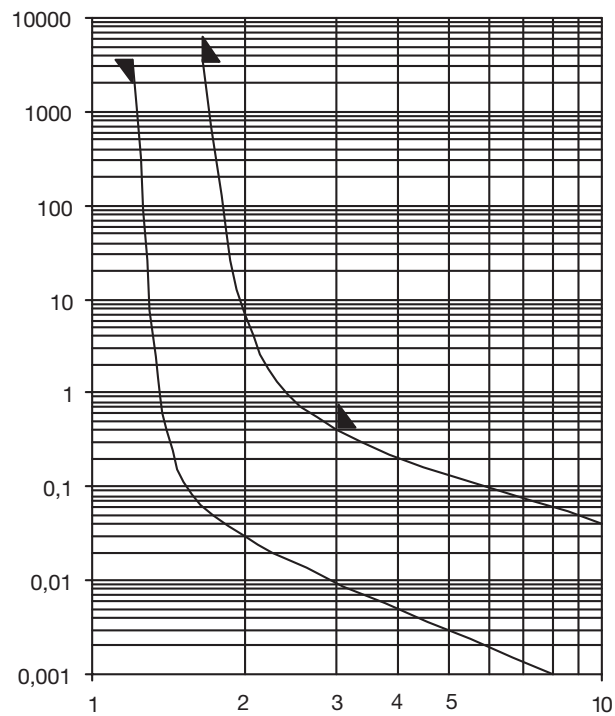
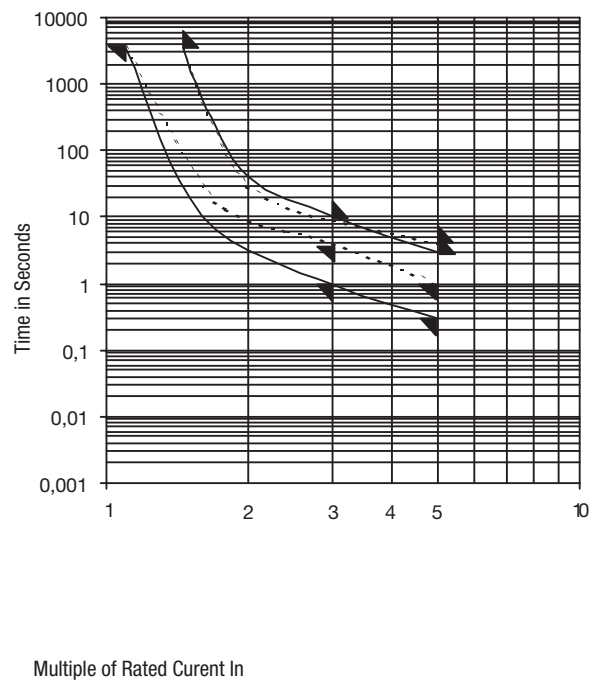
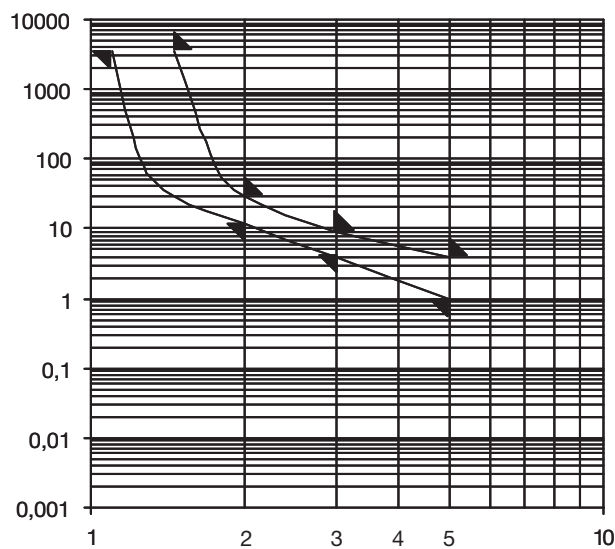
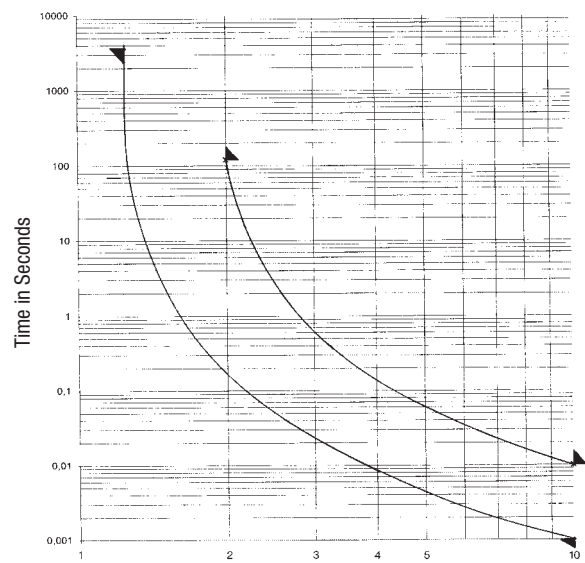
SCHURTER**A12FA 380V**Multiple of Rated Current I_n **A12FA 500V**Multiple of Rated Current I_n **A12FA 660V**Multiple of Rated Current I_n **A12M 125V**

A12TD**A3BK****D0****D1**Multiple of Rated Current I_n Multiple of Rated Current I_n

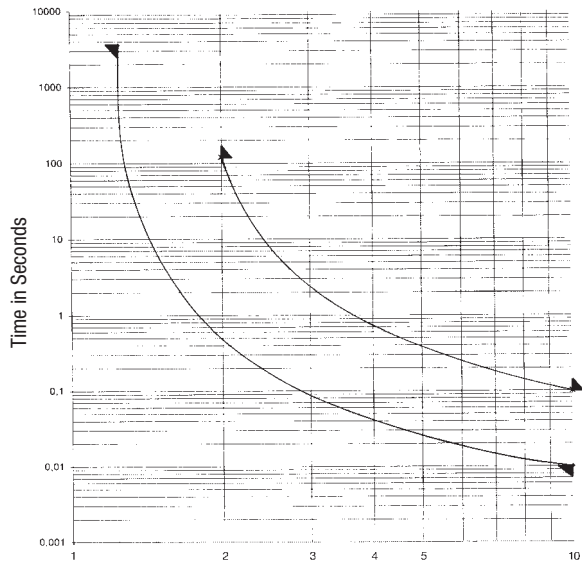
D1TDMultiple of Rated Current I_n **D20K**Multiple of Rated Current I_n **D20TD**Multiple of Rated Current I_n **D8**Multiple of Rated Current I_n

TIME-CURRENT CURVES

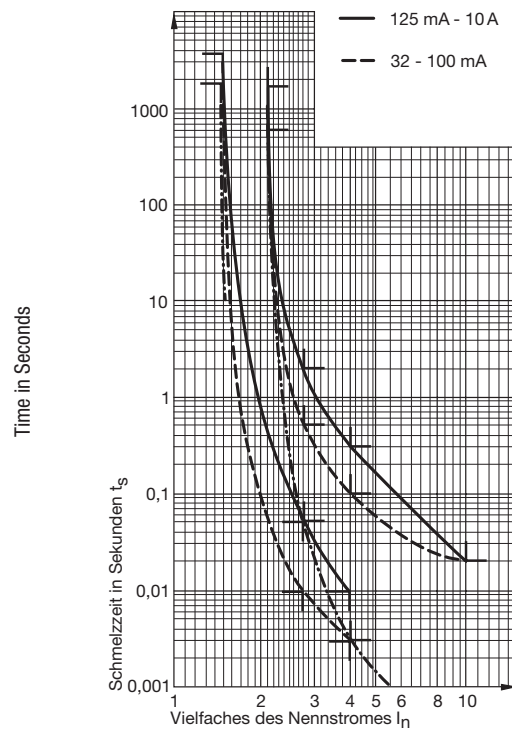
NON RESETTABLE FUSES

**D8M 125V****D8STTD****D8TD****FRT 250F**

FRT 250T

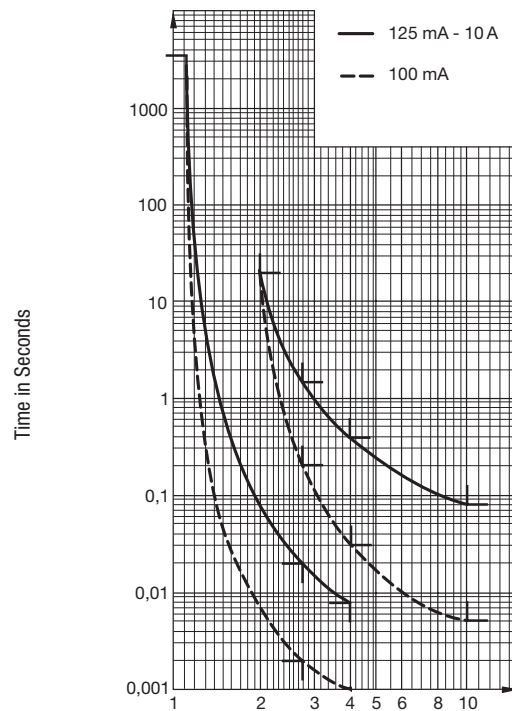
Multiple of Rated Current I_n

FSF 5x20

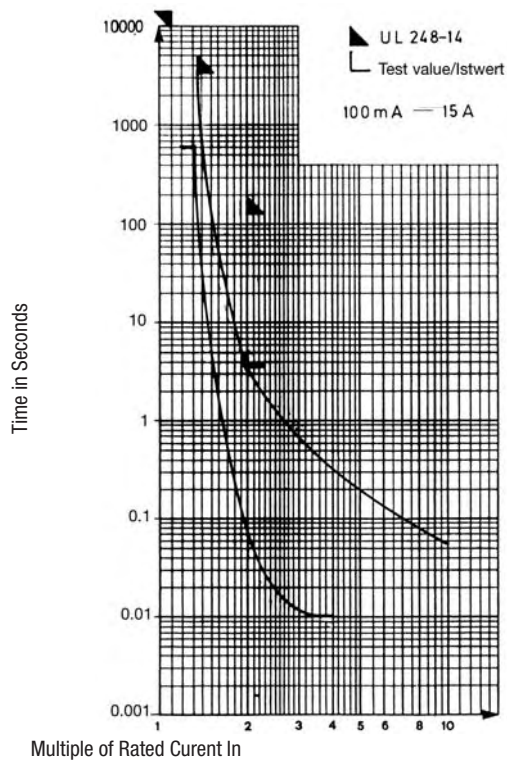
Multiple of Rated Current I_n

FSF 5x20 Pigtail

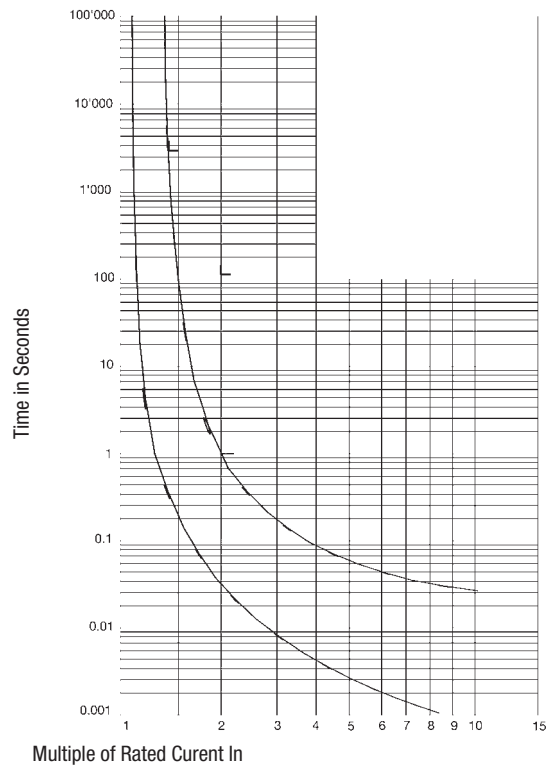
FSF 6.3x32

Multiple of Rated Current I_n

FSF 6.3x32 (UL)

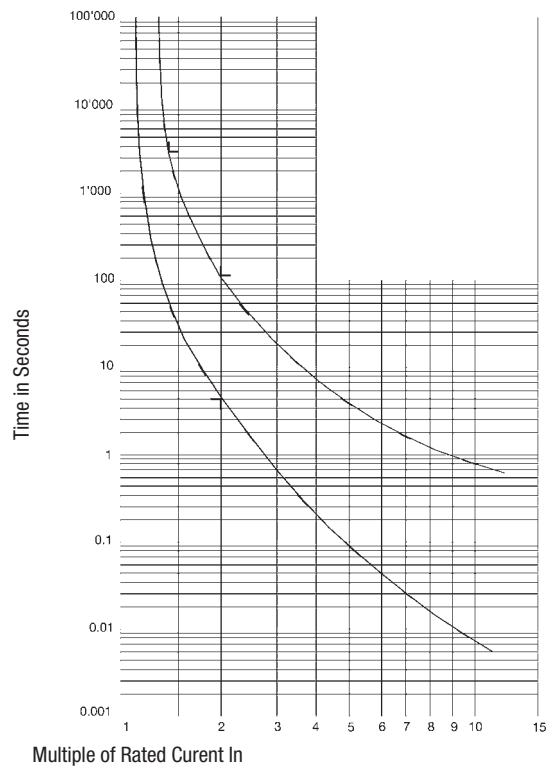


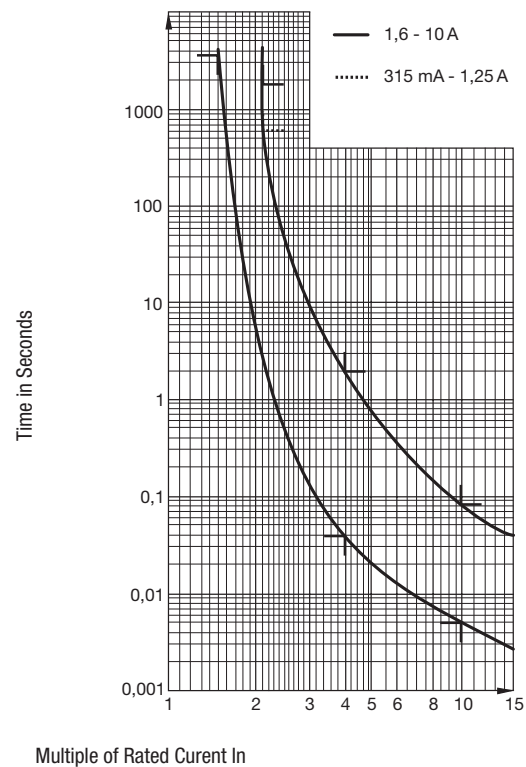
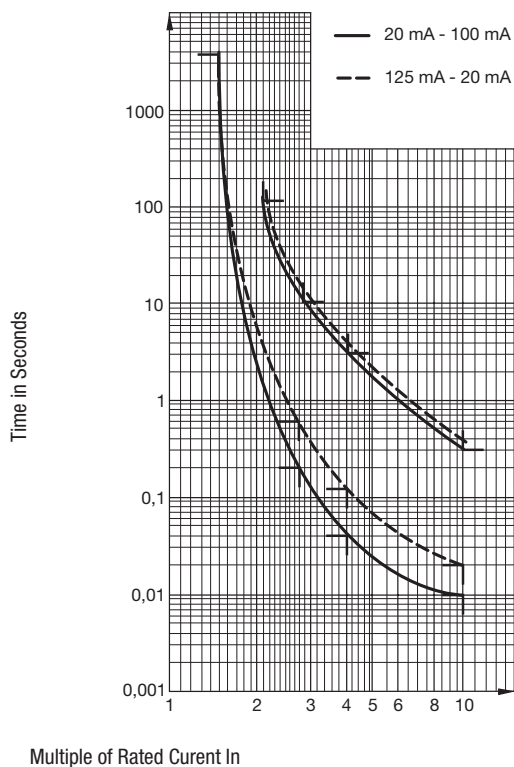
FSK 5x20

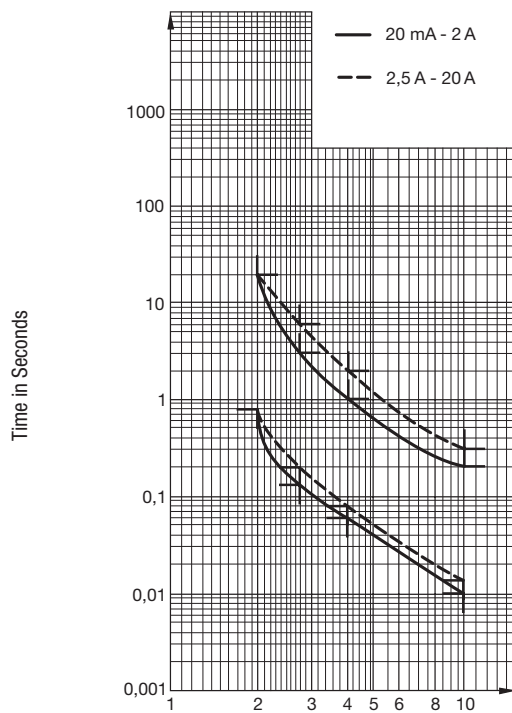
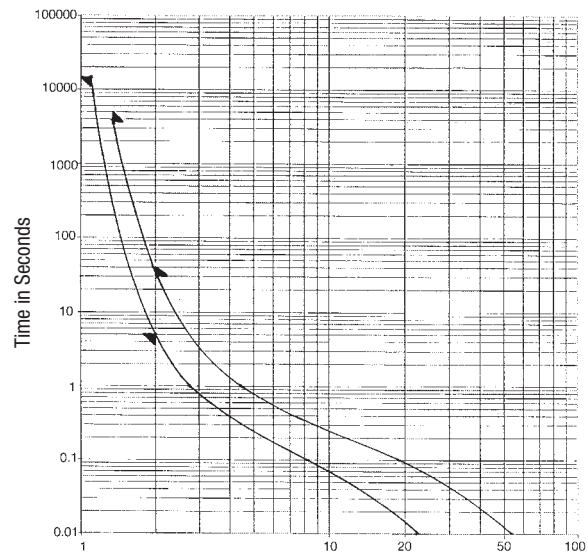
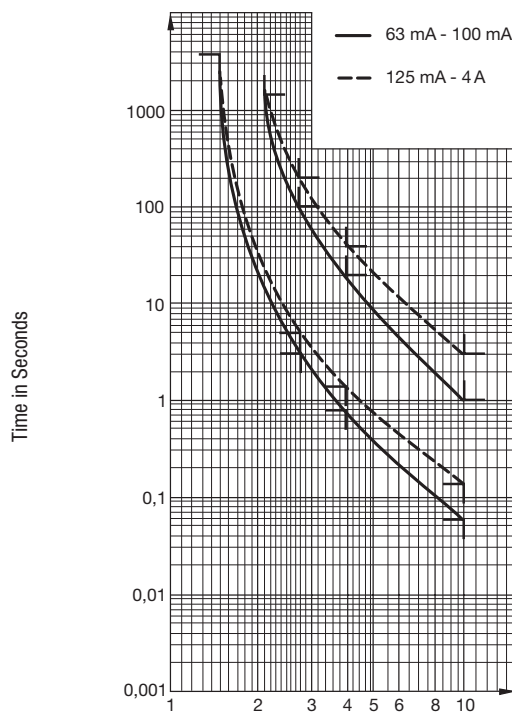
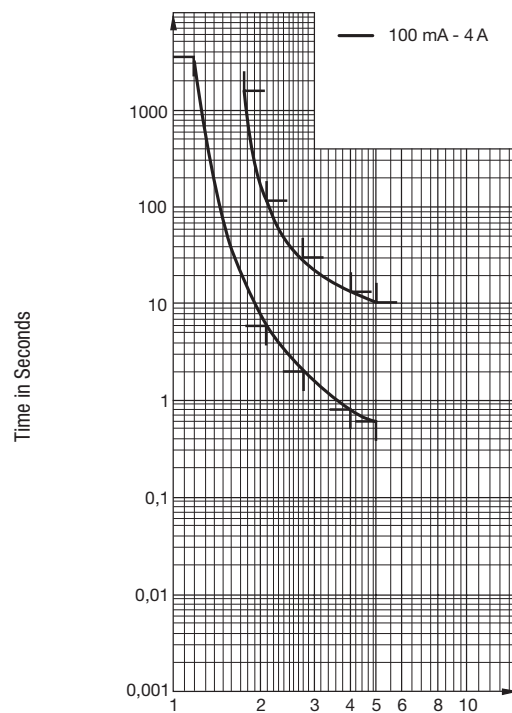


FSK 5x20 Pigtail

FSL 5x20

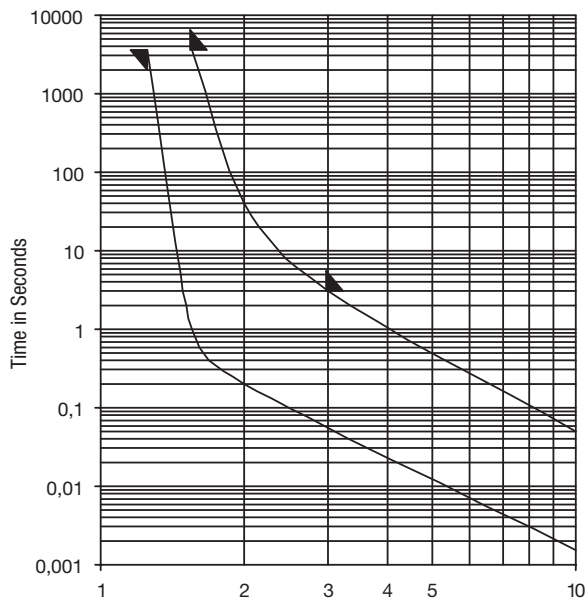


FSL 5x20 Pigtail**FSM 5x20****FST 5x20****FST 5x20 Pigtail**

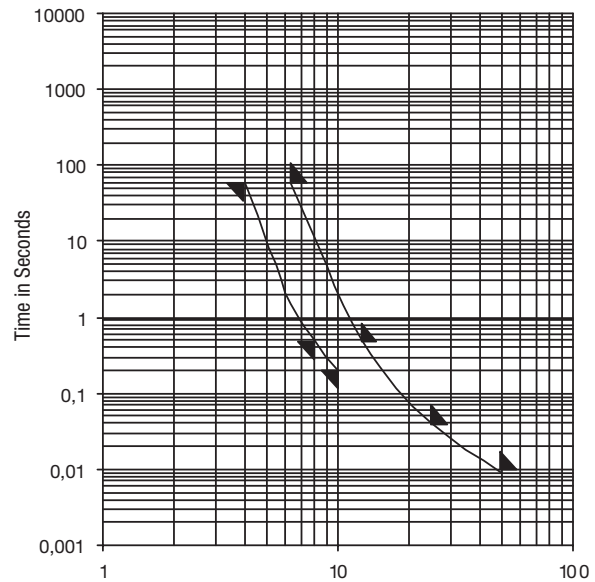
FST 6.3x32Multiple of Rated Current I_n **FST 6.3x32 (UL)**Multiple of Rated Current I_n **FTT 5x20**Multiple of Rated Current I_n **FTT 6.3x32**Multiple of Rated Current I_n

TIME-CURRENT CURVES

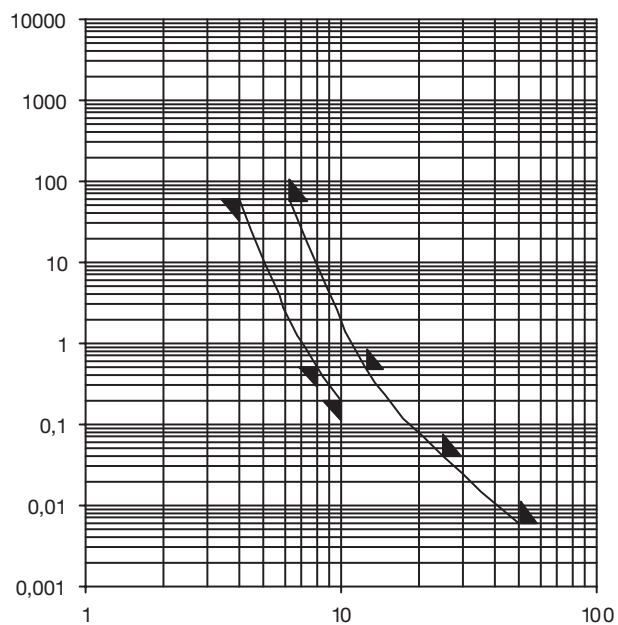
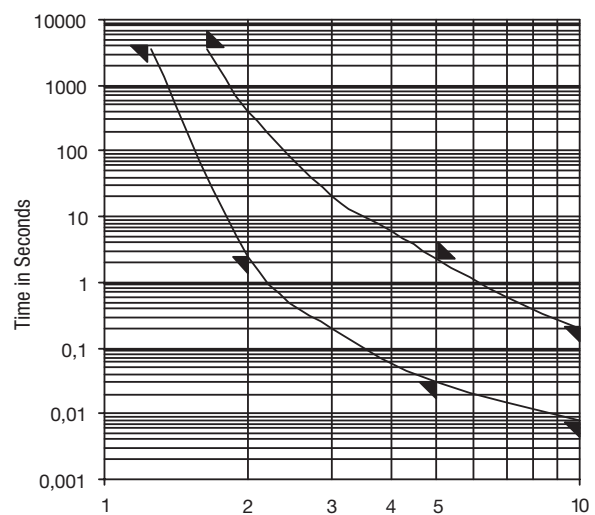
NON RESETTABLE FUSES

**MA**

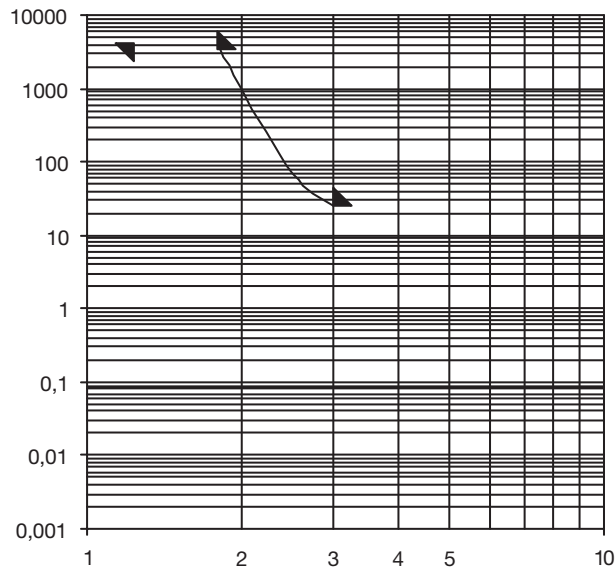
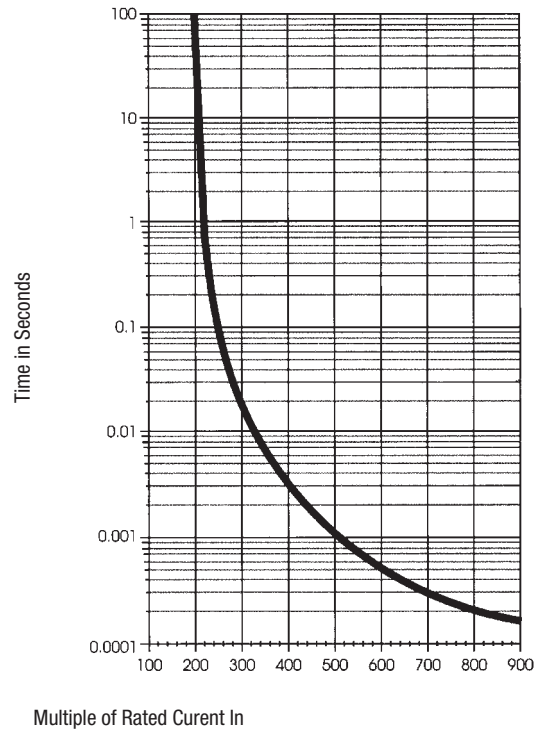
Multiple of Rated Current In

MADM

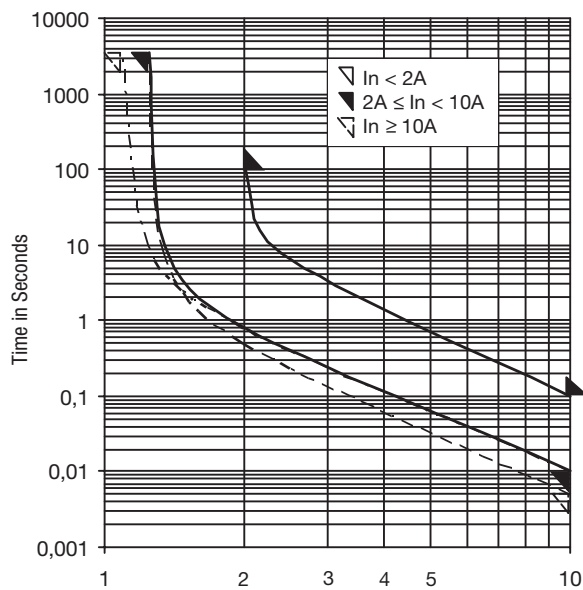
Multiple of Rated Current In

MAM**MAT**

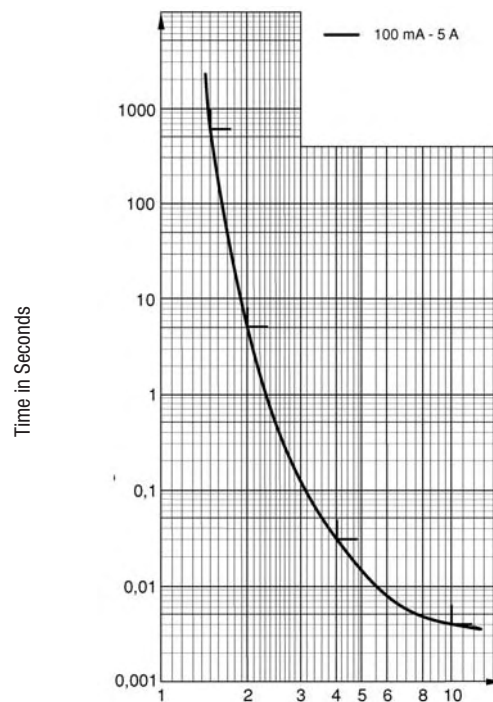
Multiple of Rated Current In

MC**MGA****MKF****MKT**

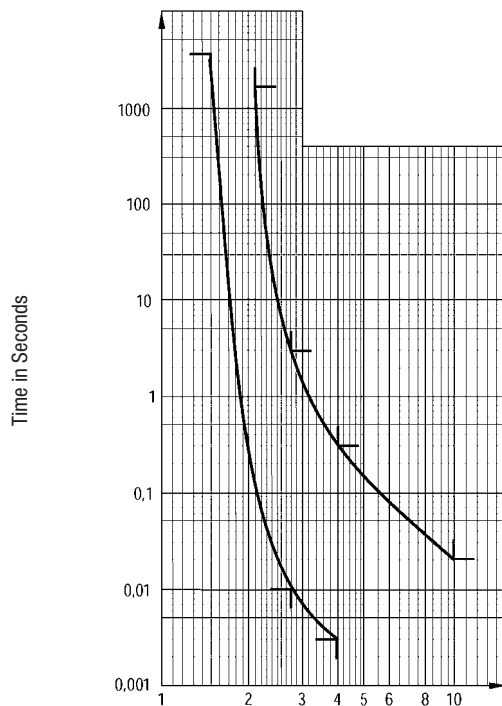
MSB

Multiple of Rated Current I_n

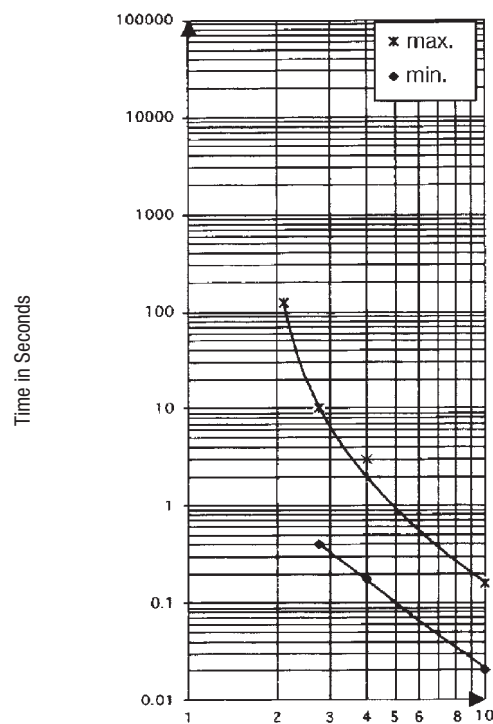
MSF 125

Multiple of Rated Current I_n

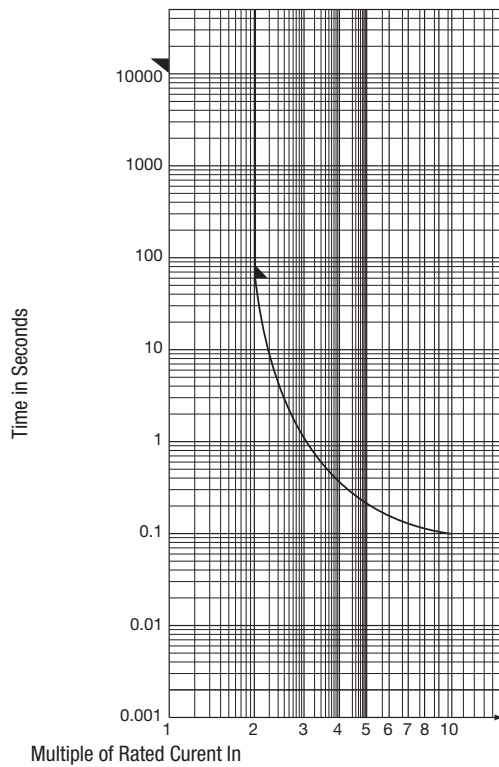
MSF 250

Multiple of Rated Current I_n

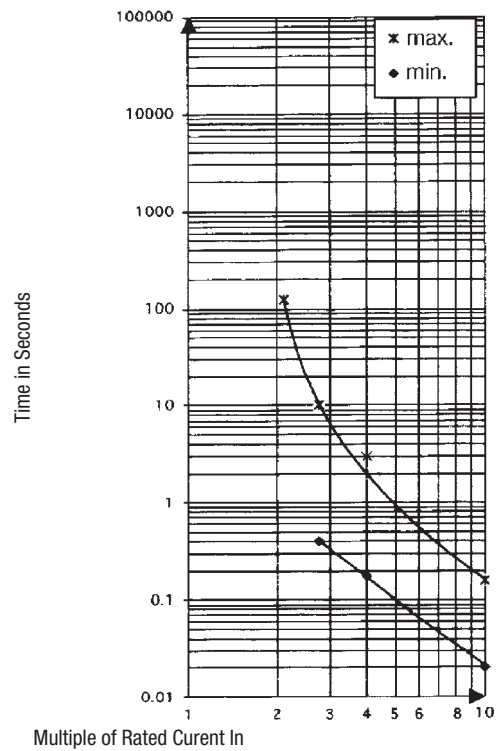
MST 250

Multiple of Rated Current I_n

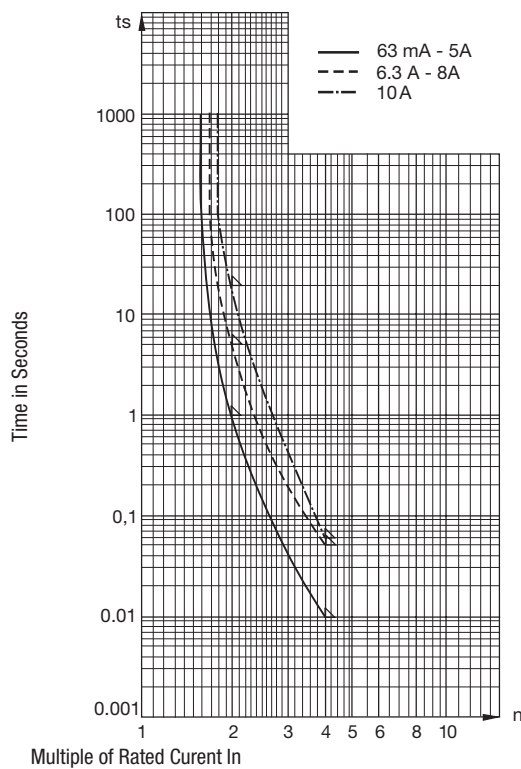
MSTU 250



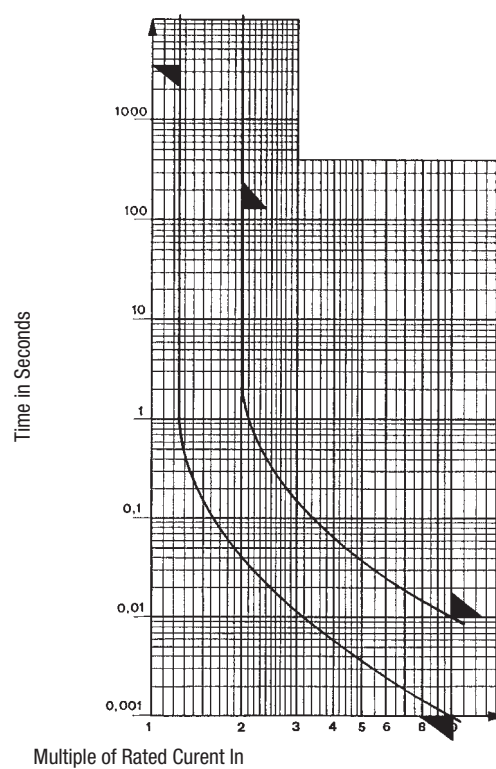
MXT 250



OMF 125

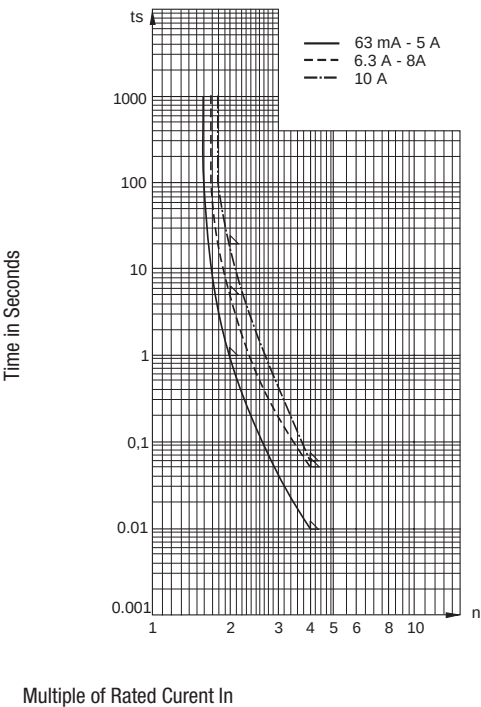


OMF 250



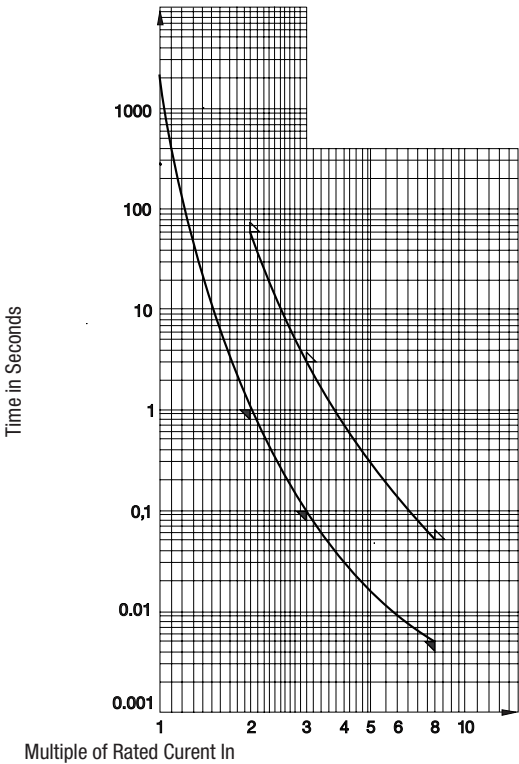
OMF 63

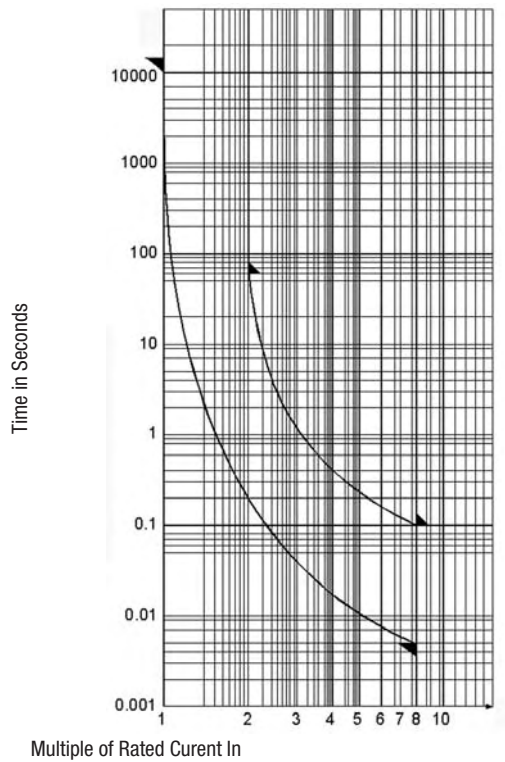
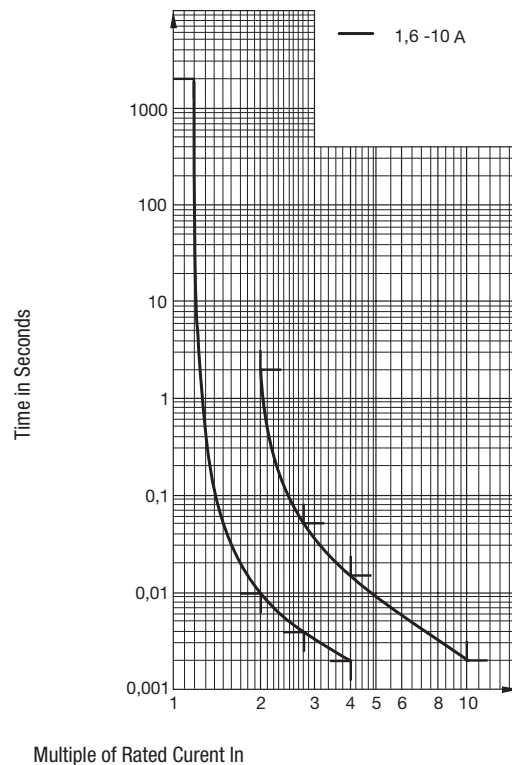
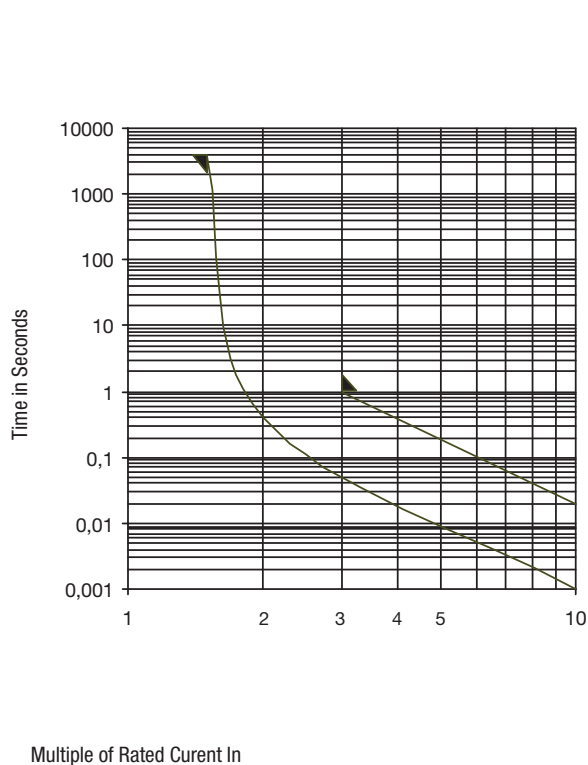
OMK 125



OMK 63

OMT

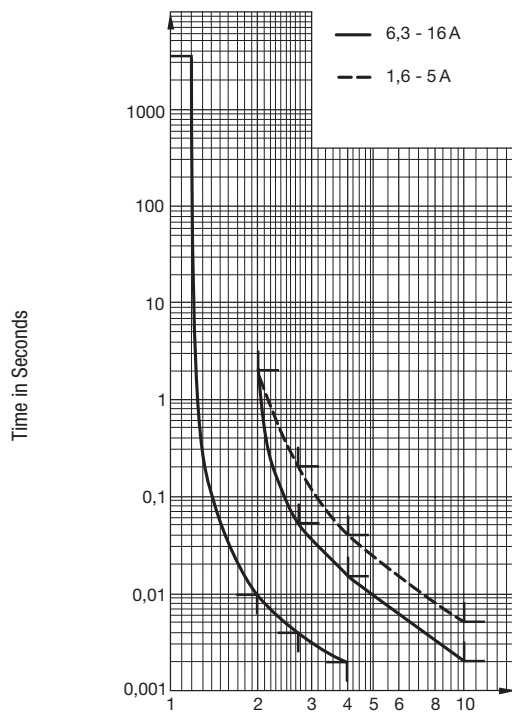


OMT 125**OMZ 125****PSC 125V****SA 5x20**

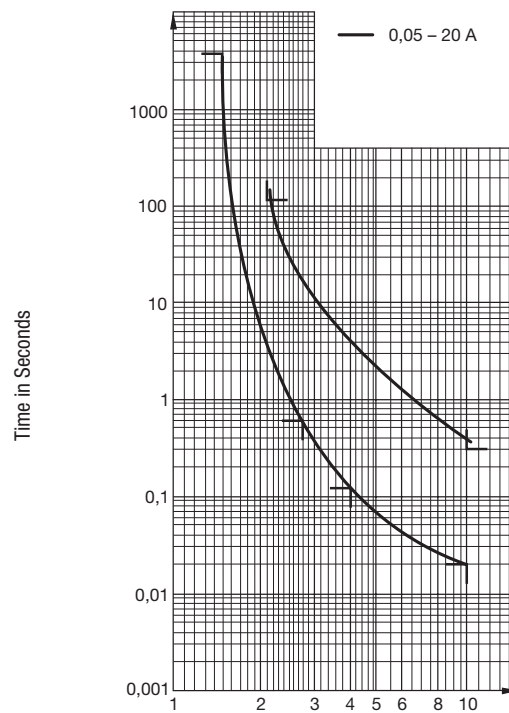
TIME-CURRENT CURVES

NON RESETTABLE FUSES

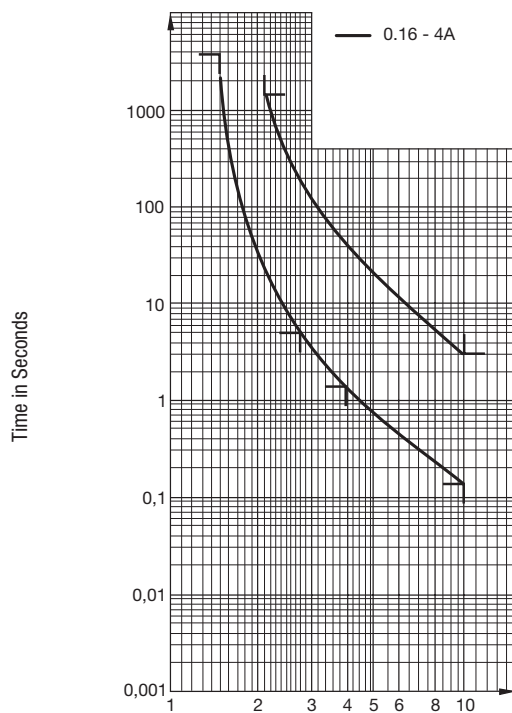
SA 6.3x32

Multiple of Rated Current I_n

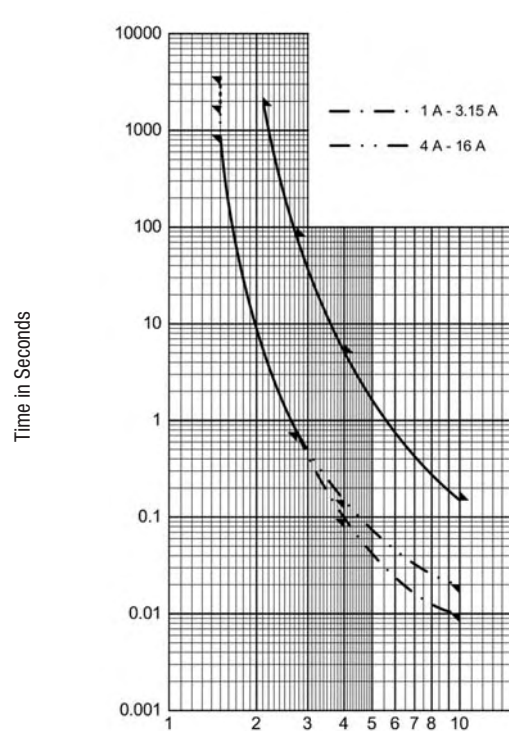
SMD-FST

Multiple of Rated Current I_n

SMD-FTT

Multiple of Rated Current I_n

SMD-SPT

Multiple of Rated Current I_n

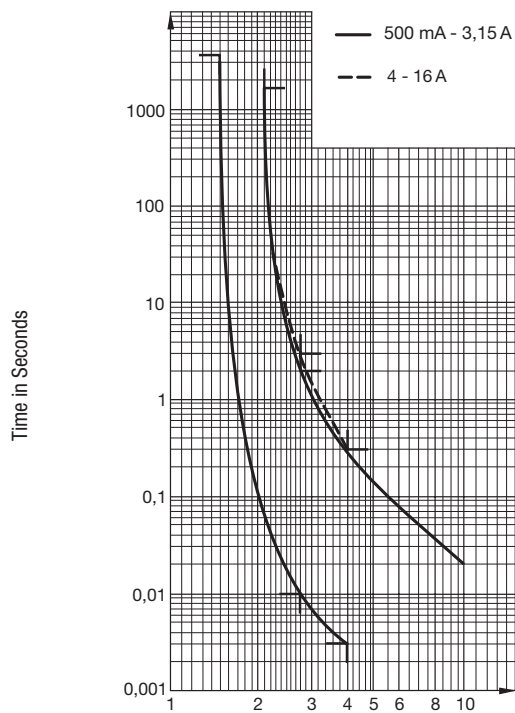
TIME-CURRENT CURVES

NON RESETTABLE FUSES



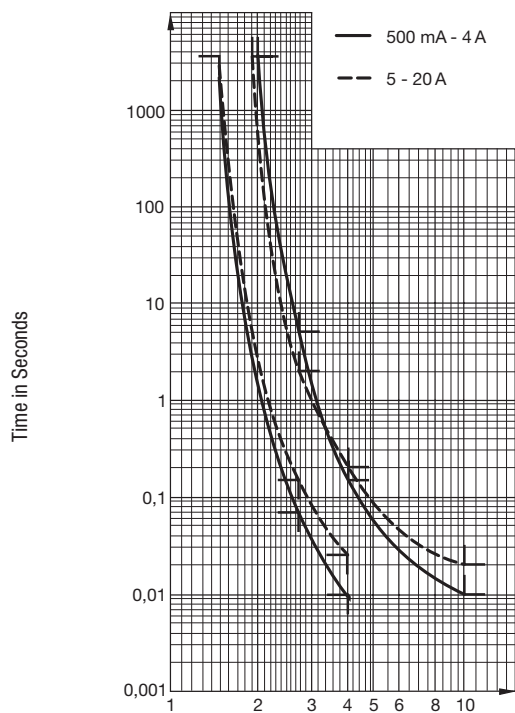
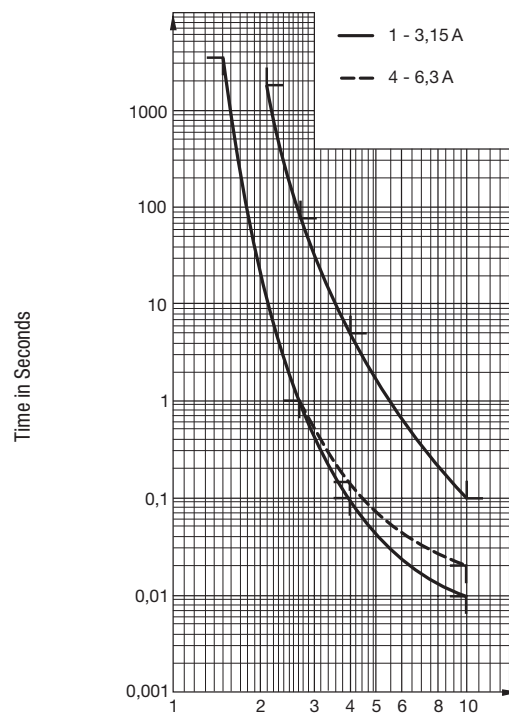
SP 5x20

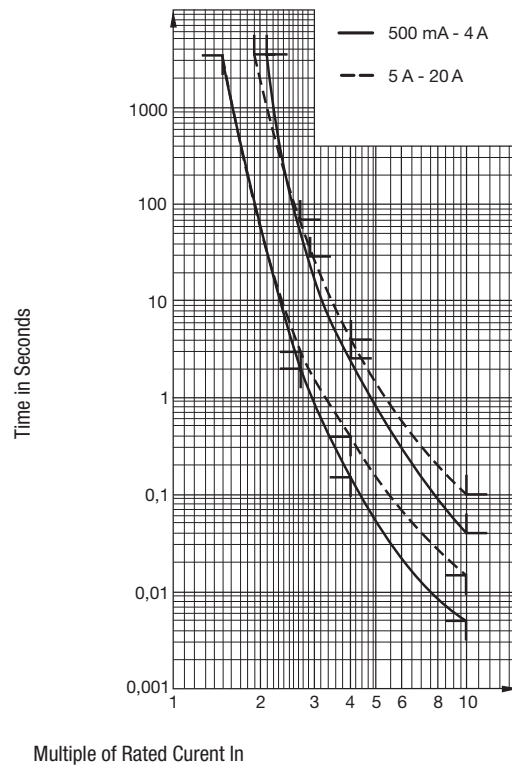
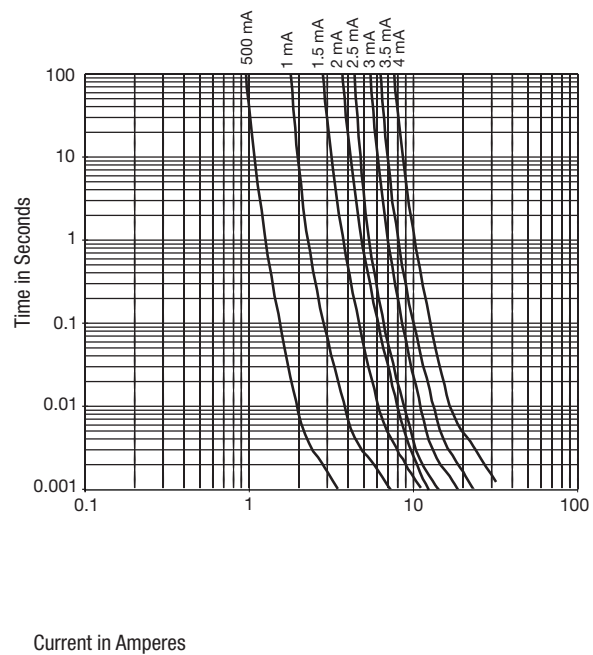
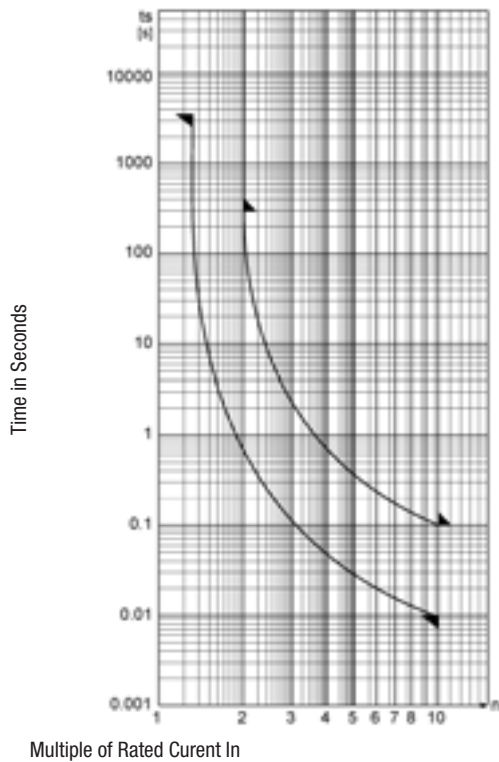
SP 5x20 Pigtail

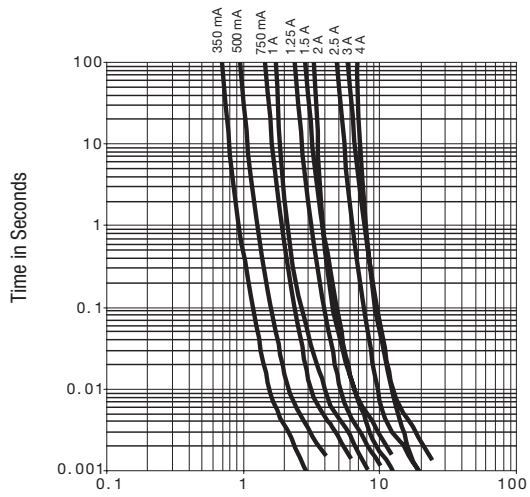
Multiple of Rated Current I_n

SP 6.3x32

SPT 5x20

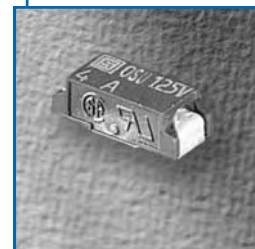
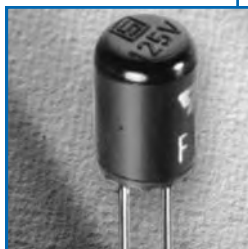
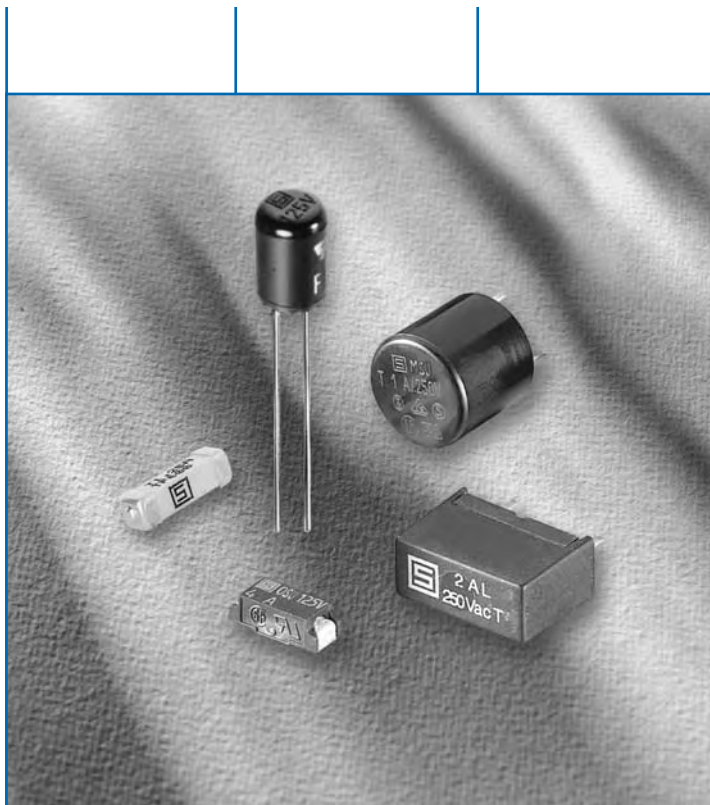
Multiple of Rated Current I_n Multiple of Rated Current I_n

SPT 5x20 Pigtail**SPT 6.3x32****UMT 250****USF 0603**

USF 1206

Current in Amperes

TELECOM FUSES



SELECTOR CHART

TELECOM FUSES



Style	Surface Mount Fuse	Surface Mount Fuse	Surface Mount Fuse	Subminiature Fuse
Dimensions	10.1 x 3.22 mm	7.4 x 3.1 mm	11 x 4.6 mm	6.4 x 6.4 mm
Product picture	   			
Type	TF 600	OSU 125	OSU 250	MSU 125
Rated Voltage	600 VAC	125 VAC/DC	250 VAC/DC	125 VAC/DC
Rated Current	0.5 - 2 A	0.25 - 3.15 A	0.25 - 3.15 A	0.25 - 3.15 A
Breaking Capacity				
Comment	GR-1089-CORE and UL 60950			
Characteristic	Time-Lag T	Quick-Acting F	Quick-Acting F	Quick-Acting F
Approvals	 CCC	 CCC	  CCC	 CCC
Catalogue page	xxx	xxx	xxx	see WEB

Style	Subminiature Fuse	Miniature Fuse	Miniature Fuse
Dimensions	8.5 x 8.5 mm	5 x 20 mm	5 x 20 mm
Product picture	  		
Type	MSU 250	FSU 5x20	SSU 5x20
Rated Voltage	250 VAC/DC	250 VAC	250 VAC
Rated Current	0.25 - 3.15 A	0.25 - 3.15 A	0.25 - 3.15 A
Breaking Capacity			
Comment			
Characteristic	Time-Lag T	Time-Lag T	Time-Lag T
Approvals	  	 	  
Catalogue page	xxx	see WEB	see WEB

TF 600



GR-1089-CORE · 600 VAC · Time-Lag T



Standards

- IEC 60127-4
- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

Approvals

- UL File Number: E41599

Applications

- xDSL and ADSL linecards and modems
- Twisted pair telecom ports requiring Telcordia GS-1089, UL 60950 or ITU compliance

References

- General Product Information see page 383
- Time-Current Curves see page 227
- Packaging Details see page 379

Weblinks

- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

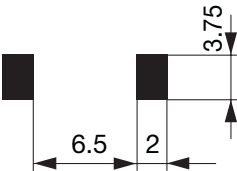
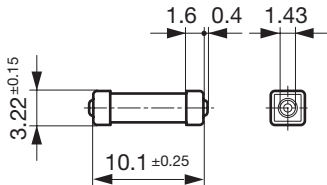
Technical Data

Rated Voltage	600 VAC
Rated Current	0.5 - 2 A
Characteristic	Time-Lag T
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Ceramic
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.23 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Characteristic

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

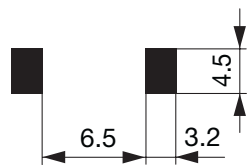
Dimensions

Length  10.1 mm



Solder pads reflow soldering

TF 600



Solder pads wave soldering

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Voltage Drop 1.0 In typ [mV]	Cold Resistance typ [mΩ]	Melting I ² t 10.0 In typ [A ² s]	Telcordia Surge [A]	UL60950	ITU - Lightning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2000.0010.xx	0.5	600	107	210	1.14	22	●	26	●	60.0
2000.0011.xx	1.25	600	94	73.2	21.4	100	●	67	●	60.0
2000.0012.xx	2	600	55	27.8	22.3	100	●	67	●	60.0

Packaging Unit	.11 Plastic Bag (100 pcs.)
	.24 Blister Tape 33 cm Reel (2000 pcs.)

OSU 125



UL 248-14 · 125 VAC/DC · Quick-Acting F



Standards

- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

Approvals

- UL File Number: E41599

Applications

- xDSL and ADSL linecards and modems

References

- General Product Information see page 383
- Time-Current Curves see page 226
- Packaging Details see page 379
- Corresponding Fuseholder OMH 125 see page 350

Weblinks

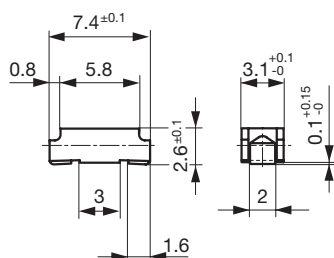
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

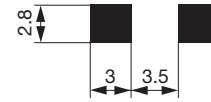
Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.25 - 3.15 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.08 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*In @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  7.4 mm

OSU 125

Solder pads

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I ² t 4.0 In typ [A ² s]	Telcordia Surge [A]	UL60950	ITU - Lightning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2060.0006.xx	0.25	125	990	250	0.0058	< 1.5		2.5		50.0
2060.0043.xx	0.35	125	990	350	0.0076	< 1.5		4		25.0
2060.0044.xx	0.375	125	990	370	0.013	< 1.5		4.6	●	25.0
2060.0007.xx	0.4	125	960	380	0.016	< 1.5		5.8	●	25.0
2060.0045.xx	0.5	125	350	180	0.01	2.5		7.7	●	25.0
2060.0008.xx	0.63	125	290	180	0.02	4.6		10	●	25.0
2060.0046.xx	0.75	125	260	200	0.031	7.0		13	●	25.0
2060.0009.xx	1	125	220	220	0.078	9.3		16	●	25.0
2060.0010.xx	1.25	125	220	280	0.14	> 14.0		25	●	25.0
2060.0047.xx	1.5	125	200	300	0.24	> 14.0		30	●	8.3
2060.0011.xx	1.6	125	200	320	0.27	> 14.0		33	●	12.5
2060.0012.xx	2	125	200	400	0.44	> 14.0		45	●	8.3
2060.0013.xx	2.5	125	190	480	0.97	> 14.0		67	●	8.3
2060.0014.xx	3	125	190	570	1.3	> 14.0		67	●	8.3
2060.0048.xx	3.15	125	190	600	1.2	> 14.0		67	●	8.3

Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 18 cm Reel (750 pcs.)
- .24 Blister Tape 33 cm Reel (3000 pcs.)

OSU 250



IEC 60127-4 · 250 VAC/DC · Quick-Acting F



Standards

- IEC 60127-4/2
- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

Approvals

- VDE License Number: 106328
- UL File Number: E41599

Applications

- xDSL and ADSL linecards and modems

References

General Product Information see page 383

Time-Current Curves see page 227

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

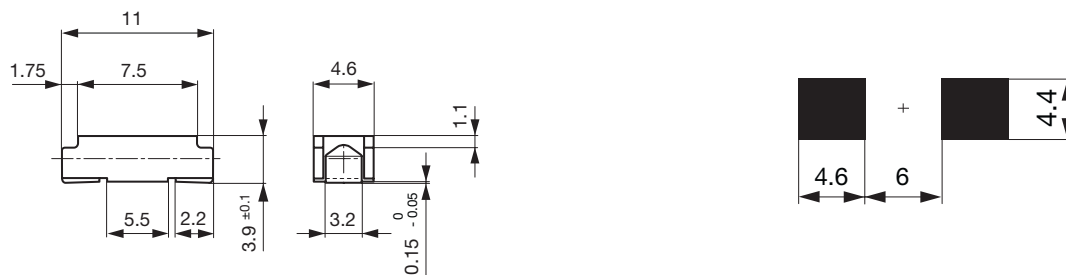
Technical Data

Rated Voltage	250 VAC/DC
Rated Current	0.25 - 3.15 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight	0.36 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Current Rating, Characteristic, Breaking Capacity, Approvals

Soldering Methods	Reflow, Wave
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Load Humidity Test	MIL-STD-202, Method 103B (1000h @ 0.1*ln @ 0.85 r.H. @ 85°C)
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Thermal Shock	MIL-STD-202, Method 107D (200 air-to-air cycles from -55 to +125°C)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

OSU 250

Dimensions

Length  11 mm

Solder pads

Variants

Order Number	Rated Current [A]	Rated Voltage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.25 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	Telcordia Surge [A]	UL60950	ITU - Lightning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2070.0010.xx	0.25	250	1100	480	0.012	< 1.9	●	3.9		100.0
2070.0011.xx	0.315	250	1000	430	0.019	< 1.9	●	4.3	●	100.0
2070.0012.xx	0.4	250	230	190	0.02	3.1	●	5	●	100.0
2070.0013.xx	0.5	250	190	190	0.03	5.1	●	10	●	100.0
2070.0014.xx	0.63	250	170	230	0.07	9.2		16	●	100.0
2070.0015.xx	0.8	250	200	330	0.12	13.15		22	●	100.0
2070.0016.xx	1	250	170	390	0.23	13.15		27	●	100.0
2070.0017.xx	1.25	250	150	390	0.47	13.15		43	●	100.0
2070.0018.xx	1.6	250	150	490	0.84	13.15		67	●	100.0
2070.0019.xx	2	250	140	600	1.4	13.15		67	●	100.0
2070.0020.xx	2.5	250	130	670	2.6	13.15		67	●	100.0
2070.0021.xx	3.15	250	130	870	4.8	13.15		67	●	100.0

Packaging Unit

.11 Plastic Bag (100 pcs.)

.24 Blister Tape 33 cm Reel (2000 pcs.)

MSU 125



UL 248-14 · 125 VAC/DC · Quick-Acting F



Standards

- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

Approvals

- UL File Number: E41599

Applications

- xDSL and ADSL linecards and modems

References

- General Product Information see page 383
- Time-Current Curves see page 226
- Packaging Details see page 379
- Corresponding Fuseholder FME see WEB;
- Corresponding Fuseholder FMR see WEB;
- Corresponding Fuseholder FMS (125V) see page 351

Weblinks

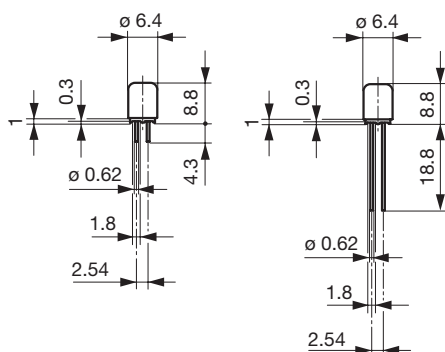
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	125 VAC/DC
Rated Current	0.25 - 3.15 A
Characteristic	Quick-Acting F
Mounting	PCB,THT
Admissible Ambient Air Temp.	-25 °C to 85 °C
Climatic Category	25/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.34 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Life Test	MIL-STD-202, Method 108A (1000h @ 0.42*In @ 70°C)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  6.4 mm

MSU 125

Drilling Diagram

MSU 125

Variants

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.0 In typ [mW]	Melting I _t 10.0 In typ [A ² s]	Telcordia Surge [A]	UL60950	ITU - Lightning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2030.0013	●			0.25	125	620	100	0.0055	< 1.5	●	4.5	●	300.0
2030.0014	●			0.315	125	680	200	0.025	< 1.5	●	5.6	●	300.0
2030.0015	●			0.4	125	180	100	0.013	1.6	●	5.9	●	300.0
2030.0016	●			0.5	125	180	100	0.02	2.4	●	6.4	●	300.0
2030.0017	●			0.63	125	180	100	0.045	2.7	●	7.2	●	300.0
2030.0018	●			0.71	125	140	100	0.045	2.9	●	7.8	●	300.0
2030.0019	●			0.75	125	170	100	0.02	3.0	●	8.5	●	300.0
2030.0020	●			0.8	125	150	100	0.04	5.0	●	11	●	300.0
2030.0021	●			1	125	150	100	0.07	6.0	●	16	●	300.0
2030.0022	●			1.25	125	150	200	0.12	9.3	●	21	●	300.0
2030.0023	●			1.6	125	150	200	0.29	> 14.0	●	35	●	300.0
2030.0024	●			2	125	130	200	0.43	> 14.0	●	38	●	300.0
2030.0025	●			2.5	125	120	300	0.6	> 14.0	●	57	●	300.0
2030.0026	●			3.15	125	120	400	1.11	> 14.0	●	65	●	300.0
2030.0243		●		0.25	125	620	100	0.0055	< 1.5	●	4.5	●	300.0
2030.0244		●		0.315	125	680	200	0.025	< 1.5	●	5.6	●	300.0
2030.0245		●		0.4	125	180	100	0.013	1.6	●	5.9	●	300.0
2030.0246		●		0.5	125	180	100	0.02	2.4	●	6.4	●	300.0
2030.0247		●		0.63	125	180	100	0.045	2.7	●	7.2	●	300.0
2030.0248		●		0.71	125	140	100	0.045	2.9	●	7.8	●	300.0
2030.0249		●		0.75	125	170	100	0.02	3.0	●	8.5	●	300.0
2030.0250		●		0.8	125	150	100	0.04	5.0	●	11	●	300.0
2030.0251		●		1	125	150	100	0.07	6.0	●	16	●	300.0
2030.0252		●		1.25	125	150	200	0.12	9.3	●	21	●	300.0
2030.0253		●		1.6	125	150	200	0.29	> 14.0	●	35	●	300.0
2030.0254		●		2	125	130	200	0.43	> 14.0	●	38	●	300.0
2030.0255		●		2.5	125	120	300	0.6	> 14.0	●	57	●	300.0
2030.0256		●		3.15	125	120	400	1.11	> 14.0	●	65	●	300.0
2030.0543			●	0.25	125	620	100	0.0055	< 1.5	●	4.5	●	300.0
2030.0544			●	0.315	125	680	200	0.025	< 1.5	●	5.6	●	300.0
2030.0545			●	0.4	125	180	100	0.013	1.6	●	5.9	●	300.0
2030.0546			●	0.5	125	180	100	0.02	2.4	●	6.4	●	300.0
2030.0547			●	0.63	125	180	100	0.045	2.7	●	7.2	●	300.0
2030.0548			●	0.71	125	140	100	0.045	2.9	●	7.8	●	300.0
2030.0549			●	0.75	125	170	100	0.02	3.0	●	8.5	●	300.0
2030.0550			●	0.8	125	150	100	0.04	5.0	●	11	●	300.0
2030.0551			●	1	125	150	100	0.07	6.0	●	16	●	300.0
2030.0552			●	1.25	125	150	200	0.12	9.3	●	21	●	300.0
2030.0553			●	1.6	125	150	200	0.29	> 14.0	●	35	●	300.0
2030.0554			●	2	125	130	200	0.43	> 14.0	●	38	●	300.0
2030.0555			●	2.5	125	120	300	0.6	> 14.0	●	57	●	300.0
2030.0556			●	3.15	125	120	400	1.11	> 14.0	●	65	●	300.0

Packaging Unit

S + L = Plastic Bag (100 pcs.)
T = Taped 36 cm Reel (1000 pcs.)

MSU 250



IEC 60127-3 · 250 VAC/DC · Time-Lag T



Standards

- IEC 60127-3/4
- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

Approvals

- VDE License Number: 40013529
- UL File Number: E41599

Applications

- xDSL and ADSL linecards and modems

References

- General Product Information see page 383
- Time-Current Curves see page 226
- Packaging Details see page 379
- Corresponding Fuseholder FMS (250V) see page 354

Weblinks

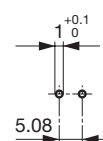
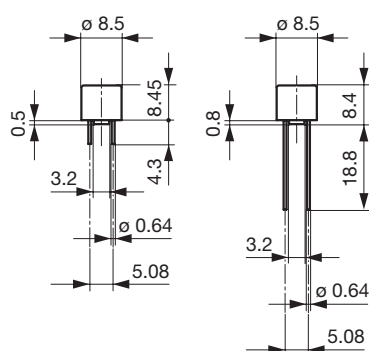
- Approvals: <http://www.schurter.com/approvals>
- RoHS: <http://www.schurter.com/rohs>

Technical Data

Rated Voltage	250 VAC/DC
Rated Current	0.25 - 3.15 A
Characteristic	Time-Lag T
Mounting	PCB,THT
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Housing	Thermoplastic, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight	0.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Current Rating, Voltage Rating, Characteristic, Approvals

Soldering Methods	Wave, Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Current Carrying Capacity	acc. to EIA/IS-722, Test 4.3.3
Moisture Resistance Test	MIL-STD-202, Method 106E (50 cycles in a temp./mister chamber)
Terminal Strength	MIL-STD-202, Method 211A (Deflection of board 1 mm for 1 minute)
Case Resistance	acc. to EIA/IS-722, Test 4.7 >100 MΩ (between leads and body)
Mechanical Shock	MIL-STD-202, Method 213B (Shock 50gn, half sine wave, 11 ms)
Vibration, High Frequency	MIL-STD-202, Method 204D (Shock 20 gn, 20 min, 10-2 kHz, 12 cyc.)
Resistance to Solvents	MIL-STD-202, Method 215A
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)

Dimensions

Length  8.5 mm

Drilling Diagram

MSU 250

Variants

S = Short Terminals
L = Long Terminals
T = Taped and Reeled

Order Number	S	L	T	Rated Current [A]	Rated Voltage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissipation 1.5 In typ [mW]	Melting Pt 10.0 In typ [A²s]	Telcordia Surge [A]	UL60950	ITU - Lightning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2040.0609	●			0.25	250	120	80	0.6	> 14.0		25.3	●	35.0
2040.0610	●			0.315	250	120	100	0.8	> 14.0		29.2	●	35.0
2040.0611	●			0.4	250	110	100	1.1	> 14.0		39.5	●	35.0
2040.0612	●			0.5	250	100	100	2.5	> 14.0		57	●	35.0
2040.0613	●			0.63	250	90	100	4	> 14.0		67	●	35.0
2040.0614	●			0.8	250	80	200	8	> 14.0	●	67	●	35.0
2040.0615	●			1	250	70	200	12	> 14.0	●	67	●	35.0
2040.0616	●			1.25	250	70	300	15	> 14.0	●	67	●	35.0
2040.0617	●			1.6	250	60	300	30	> 14.0	●	67	●	50.0
2040.0618	●			2	250	60	300	34	> 14.0	●	67	●	50.0
2040.0619	●			2.5	250	50	400	55	> 14.0	●	67	●	50.0
2040.0620	●			3.15	250	50	500	76	> 14.0	●	67	●	50.0
2040.0709	●			0.25	250	120	80	0.6	> 14.0		25.3	●	35.0
2040.0710	●			0.315	250	120	100	0.8	> 14.0		29.2	●	35.0
2040.0711	●			0.4	250	110	100	1.1	> 14.0		39.5	●	35.0
2040.0712	●			0.5	250	100	100	2.5	> 14.0		57	●	35.0
2040.0713	●			0.63	250	90	100	4	> 14.0		67	●	35.0
2040.0714	●			0.8	250	80	200	8	> 14.0	●	67	●	35.0
2040.0715	●			1	250	70	200	12	> 14.0	●	67	●	35.0
2040.0716	●			1.25	250	70	300	15	> 14.0	●	67	●	35.0
2040.0717	●			1.6	250	60	300	30	> 14.0	●	67	●	50.0
2040.0718	●			2	250	60	300	34	> 14.0	●	67	●	50.0
2040.0719	●			2.5	250	50	400	55	> 14.0	●	67	●	50.0
2040.0720	●			3.15	250	50	500	76	> 14.0	●	67	●	50.0
2040.0809		●		0.25	250	120	80	0.6	> 14.0		25.3	●	35.0
2040.0810		●		0.315	250	120	100	0.8	> 14.0		29.2	●	35.0
2040.0811		●		0.4	250	110	100	1.1	> 14.0		39.5	●	35.0
2040.0812		●		0.5	250	100	100	2.5	> 14.0		57	●	35.0
2040.0813		●		0.63	250	90	100	4	> 14.0		67	●	35.0
2040.0814		●		0.8	250	80	200	8	> 14.0	●	67	●	35.0
2040.0815		●		1	250	70	200	12	> 14.0	●	67	●	35.0
2040.0816		●		1.25	250	70	300	15	> 14.0	●	67	●	35.0
2040.0817		●		1.6	250	60	300	30	> 14.0	●	67	●	50.0
2040.0819		●		2	250	60	300	34	> 14.0	●	67	●	50.0
2040.0819		●		2.5	250	50	400	55	> 14.0	●	67	●	50.0
2040.0820		●		3.15	250	50	500	76	> 14.0	●	67	●	50.0

Packaging Unit

S + L = Plastic Bag (100 pcs.)
T = Taped 36 cm Reel (750 pcs.)

FSU 5x20



GR-1089-CORE · 250 VAC · Time-Lag T



Standards

- IEC 60127-2/2
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

References

General Product Information see page 383
Time-Current Curves see page 226

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

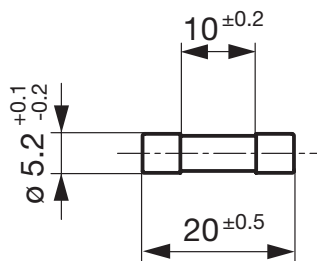
Approvals

- VDE License Number: 119571
- UL File Number: E41599

Technical Data

Rated Voltage	250 VAC
Rated Current	0.25 - 3.15 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Glass
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	0.9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

Dimensions

Length  5 mm

FSU 5x20

Variants

Order Number	Rated Cur- rent [A]	Rated Vol- tage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissi- pation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A²s]	Telcordia Surge [A]	UL60950	ITU - Light- ning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2010.0011	0.25	250	210	200	0.238	> 14.0	●	16	●	100.0
2010.0012	0.315	250	170	200	0.544	> 14.0	●	27	●	100.0
2010.0013	0.4	250	150	200	0.768	> 14.0	●	35	●	100.0
2010.0014	0.5	250	160	200	3	> 14.0	●	67	●	100.0
2010.0015	0.63	250	160	300	4.35	> 14.0	●	67	●	100.0
2010.0016	0.8	250	120	300	3.85	> 14.0	●	67	●	100.0
2010.0017	1	250	60	200	3.3	> 14.0	●	67	●	100.0
2010.0065	1.4	250	60	300	7.45	> 14.0	●	67	●	100.0
2010.0018	1.25	250	60	300	5.5	> 14.0	●	67	●	100.0
2010.0019	1.6	250	60	300	10.5	> 14.0	●	67	●	100.0
2010.0020	2	250	60	300	16	> 14.0	●	67	●	100.0
2010.0021	2.5	250	60	400	21.9	> 14.0	●	67	●	100.0
2010.0022	3.15	250	60	500	47	> 14.0	●	67	●	100.0

Packaging Unit	Plastic Bag (10 pcs.)
-----------------------	-----------------------

SSU 5x20

IEC 60127-2 · 250 VAC · Time-Lag T

**Standards**

- IEC 60127-2/5
- UL 248-14
- CSA C22.2 no. 248.14
- GR-1089-CORE
- UL 60950
- ITU-T K.20 and K.21
- TIA-968-A

References

General Product Information see page 383
 Time-Current Curves see page 227

Weblinks

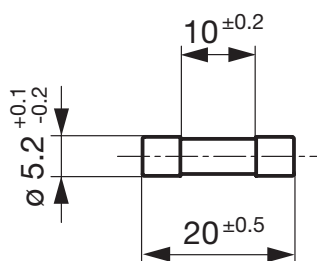
Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Approvals

- VDE License Number: 139234
- UL File Number: E41599

Technical Data

Rated Voltage	250 VAC
Rated Current	0.25 - 3.15 A
Characteristic	Time-Lag T
Mounting	Fuseholder / Clip
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Tube	Ceramic
Material: Endcaps	Nickel-Plated Copper Alloy
Unit Weight	1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Current Rating, Voltage Rating, Characteristic, Breaking Capacity, Approvals

DimensionsLength  5 mm

SSU 5x20

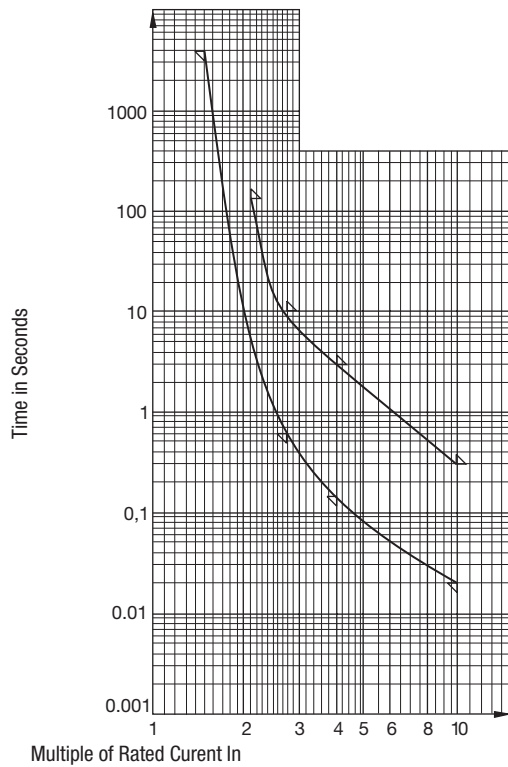
Variants

Order Number	Rated Cur- rent [A]	Rated Vol- tage [V]	Voltage Drop 1.0 In typ [mV]	Power Dissi- pation 1.5 In typ [mW]	Melting I ² t 10.0 In typ [A ² s]	Telcordia Surge [A]	UL60950	ITU - Light- ning Surge [A]	ITU - Power Induc-	ITU - Power Contact
2020.0001	0.5	250	360	500	0.5	> 14.0	●	27.7	●	1500.0
2020.0002	0.63	250	330	500	1.55	> 14.0	●	57	●	1500.0
2020.0003	0.8	250	260	500	2.3	> 14.0	●	67	●	1500.0
2020.0004	1	250	180	500	1.1	> 14.0	●	57	●	1500.0
2020.0005	1.25	250	150	500	1.86	> 14.0	●	67	●	1500.0
2020.0006	1.6	250	130	500	4.35	> 14.0	●	67	●	1500.0
2020.0007	2	250	120	600	9.2	> 14.0	●	67	●	1500.0
2020.0008	2.5	250	100	600	11.7	> 14.0	●	67	●	1500.0
2020.0009	3.15	250	100	800	33.7	> 14.0	●	67	●	1500.0

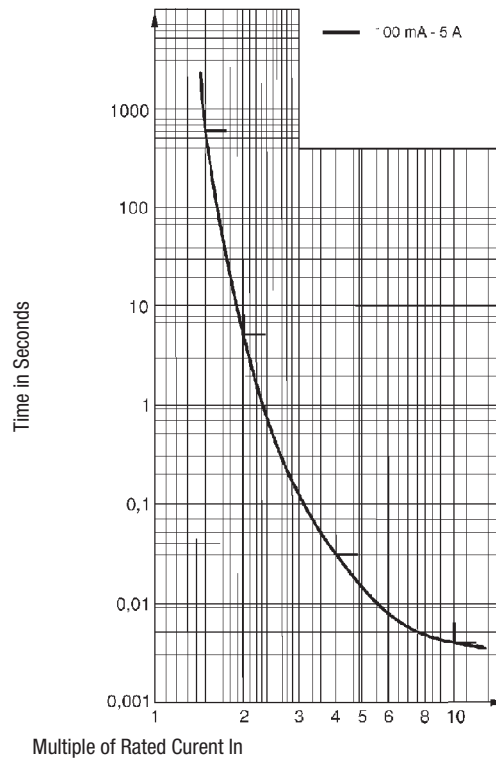
Packaging Unit

Plastic Bag (10 pcs.)

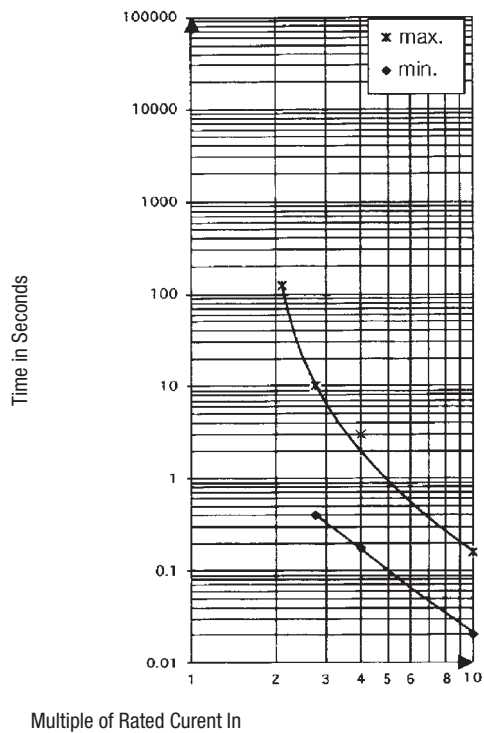
FSU 5x20



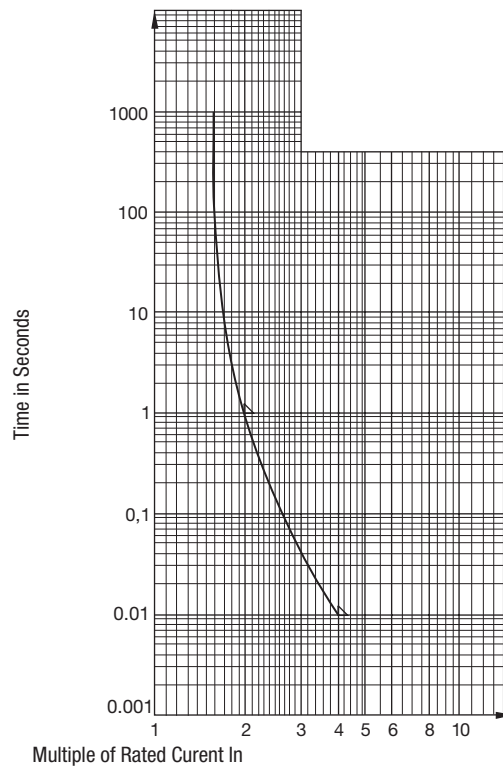
MSU 125

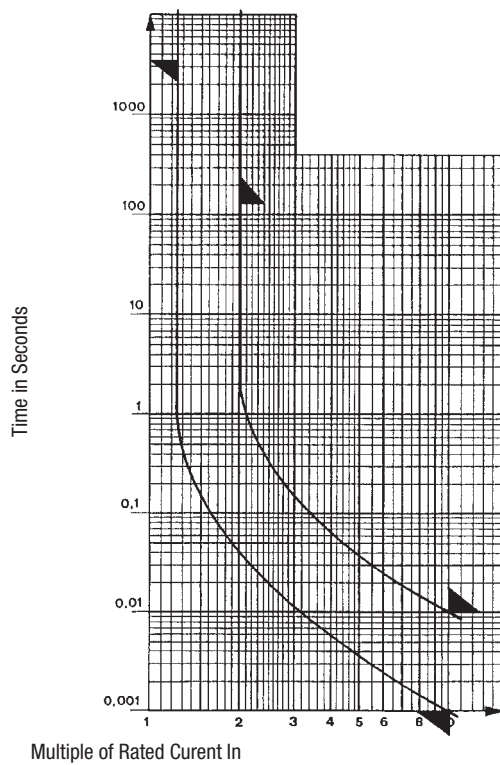
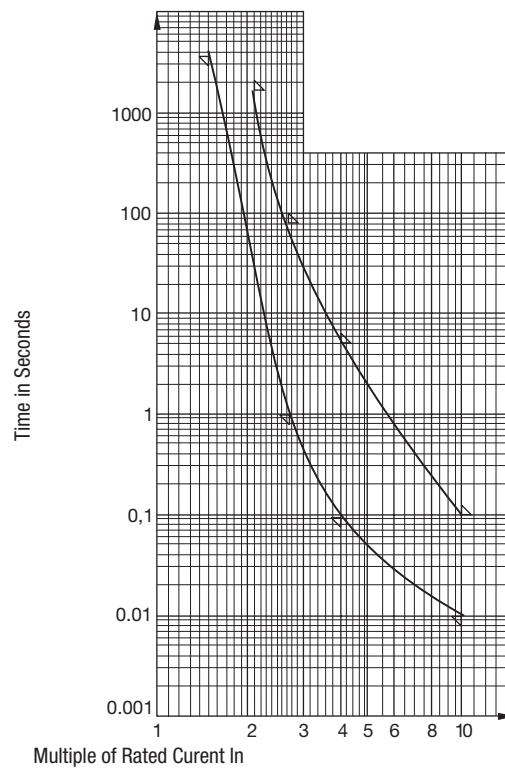
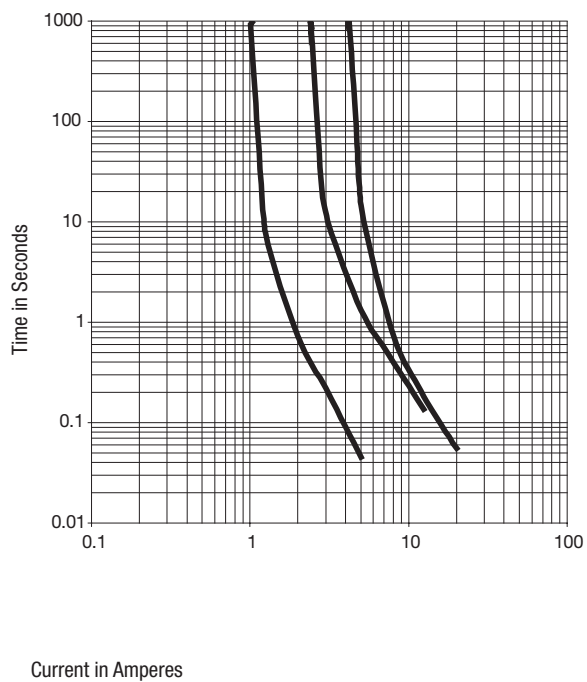


MSU 250

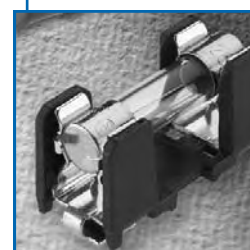


OSU 125



OSU 250**SSU 5x20****TF 600**

FUSEHOLDERS



SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Mounting	Panel Mount Front-Side	Panel Mount Rear-Side	Panel Mount Front-Side	Panel Mount Front-Side
Fastening	Fixing Nut	Fixing Nut	Fixing Nut	Fixing Nut
Terminals	Solder or Quick-Connect	Solder or Quick-Connect	Solder or Quick-Connect	Solder or Quick-Connect
Product picture				
Type	FPG1	FPG2	FEF	FIO
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE), 16 A (UL/CSA)	10 A (VDE), 16 A (UL/CSA)	10 A (VDE), 10 A (UL/CSA)	10 A (VDE), 10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A	2.5 W / 10 A	4 W / 10 A	2.5 W / 10 A
Comment				
Degree of Protection	IP 40 / IP 67	IP 40 / IP 67	IP 40 / IP 54	IP 40 / IP 65
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Mounting	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Rear-Side
Fastening	Fixing Nut	Fixing Nut	Fixing Nut	Fixing Nut
Terminals	Solder or Quick-Connect	Solder or Quick-Connect	Solder or Quick-Connect	Solder
Product picture				
Type	FIN	FBS1	FZ	23316P
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE), 10 A (UL/CSA)	10 A (VDE), 10 A (UL/CSA)	16 A (VDE), 30 A (UL/CSA)	6.3 A (NF)
Rated Power Acceptance	2.5 W / 10 A	2.5 W / 10 A	4 W / 16 A	1.5 W / 6.3 A
Comment		Shocksafe Category PC3, Medical Type		
Degree of Protection	IP 67	IP 40	IP 40 / IP 67	IP 40 / IP 67
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Mounting	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side
Fastening	Fixing Nut	Fixing Nut	Snap-In	Snap-In
Terminals	Solder	Solder	Solder or Quick-Connect	Solder or Quick-Connect
Product picture				
Type	F231411	F231529P	FPG3	FEF (Snap)
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current		6.3 A (NF)	10 A (VDE) , 16 A (UL/CSA)	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	1.3 W	3.4 W / 6.3 A	2.5 W / 10 A	4 W / 10 A
Comment			Panel Thickness 1.0 - 3.0 mm	Panel Thickness 0.75 - 3.0 mm
Degree of Protection	IP 40	IP 68	IP 40	IP 40
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Mounting	Panel Mount Front-Side	PCB	PCB	PCB
Fastening	Press-Fit			
Terminals	Solder or Quick-Connect	Solder	Solder	Solder
Product picture				
Type	FPG6	FPG4	FAF	FAP
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)	10 A (VDE) , 16 A (UL/CSA)	6.3 A (VDE) , 12 A (UL)	6.3 A (VDE)
Rated Power Acceptance	2.5 W / 10 A	2.5 W / 10 A	2 W / 6.3 A	1.6 W / 6.3 A
Comment				Shocksafe Category PC1
Degree of Protection	IP 40	IP 40	IP 40 / IP 54	IP 40
Approvals				
Catalogue page	see WEB	xxx	xxx	xxx

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	5 x 20 mm
Mounting	PCB	PCB	PCB	PCB
Fastening				
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	231409	FPG5	FBS2	FAB
Rated Voltage	250 VAC/DC	250 VAC	250 VAC	250 VAC
Rated Current	10 A	10 A (VDE) , 16 A (UL/CSA)	10 A (VDE) , 10 A (UL/CSA)	10 A (VDE) , 12 A (UL)
Rated Power Acceptance	1.3 W / 10 A	2.5 W / 10 A	2.5 W / 10 A	2.5 W / 10 A
Comment	Shocksafe Category PC3, Medical Type			
Degree of Protection	IP 00	IP 40	IP 40	IP 40
Approvals	GAM T1 NNO			
Catalogue page	xxx	xxx	xxx	xxx

Fuse-Link	5 x 20 mm	5 x 20 mm	6.3 x 32 mm	6.3 x 32 mm
Mounting	PCB	PCB	Panel Mount Rear-Side	Panel Mount Rear-Side
Fastening			Fixing Nut	Fixing Nut
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	FAS	FPG7	23312P	23463P
Rated Voltage	400 VAC	250 VAC	250 VAC	250 VAC
Rated Current	6.3 A	10 A (VDE) , 16 A (UL/CSA)	10 A (UL/CSA) , 10 A (NF)	10 A
Rated Power Acceptance	1.6 W / 6.3 A	2.5 W / 10 A	2.5 W / 10 A	2.5 W / 10 A
Comment				
Degree of Protection	IP 40	IP 40	IP 40 / IP 67	IP 67
Approvals			GAM T1 NNO	GAM T1 NNO
Catalogue page	xxx	xxx	see WEB	see WEB

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side
Fastening	Fixing Nut	Fixing Nut	Fixing Nut	Fixing Nut
Terminals	Solder	Solder or Quick-Connect	Solder	Solder
Product picture				
Type	231549P	FEU	FEU (Med)	FEU (Grip)
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	16 A	10 A (VDE) , 20 A (UL)	10 A (VDE) , 20 A (UL)	10 A (VDE) , 20 A (UL)
Rated Power Acceptance	3.6 W / 16 A	4 W / 10 A	4 W / 10 A	4 W / 10 A
Comment				
Degree of Protection	IP 68	IP 40	IP 40	IP 40
Approvals	GAM T1			
Catalogue page	xxx	xxx	see WEB	see WEB

Fuse-Link	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount Front-Side	Panel Mount Front-Side	Panel Mount Front-Side	PCB
Fastening	Fixing Nut	Fixing Nut	Fixing Nut	
Terminals	Quick-Connect	Solder or Quick-Connect	Solder	Solder
Product picture				
Type	FEC	FUL	231702	FAC
Rated Voltage	500 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE) , 20 A (UL/CSA)	16 A (VDE) , 30 A (UL/CSA)	16 A (6.3x32) , 6.3 A (5x20)	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A	4 W / 16 A	3.5 W / 16 A	3.2 W / 10 A
Comment				
Degree of Protection	IP 40	IP 40 / IP 67	IP 68	IP 40
Approvals			NNO	
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	5 x 20 or 6.3 x 32 mm	4.7 x 16 mm
Mounting	PCB	PCB	PCB	Panel Mount Rear-Side
Fastening				Fixing Nut
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	FAU	231618	FUP	231600P
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)	16 A (UL/CSA)	16 A (VDE) , 30 A (UL/CSA)	5 A
Rated Power Acceptance	3.2 W / 10 A		4 W / 16 A	1 W / 5 A
Comment				
Degree of Protection	IP 40		IP 40	IP 67
Approvals		GAM T1		GAM T1 NNO
Catalogue page	xxx	see WEB	xxx	xxx

Fuse-Link	10.3 x 38 mm	5 x 20 mm	5 x 20 mm	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount Front-Side	PCB	PCB	PCB
Fastening		Screw or Rivet		Screw or Rivet
Terminals	Quick-Connect	Solder	Solder	Solder
Product picture				
Type	23530P	OGN	OGN-SMD	OGD
Rated Voltage	600 VAC	250 VAC	250 VAC	250 VAC
Rated Current	25 A	10 A (VDE) , 10 A (UL/CSA)	10 A (VDE) , 10 A (UL/CSA)	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	4.5 W / 25 A	4 W / 10 A	4 W / 10 A	4 W / 10 A
Comment				
Degree of Protection	IP 40 / IP 67			
Approvals	NNO			
Catalogue page	xxx	xxx	xxx	xxx

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 or 6.3 x 32 mm	5 x 20 mm	6.3 x 32 mm	5 x 20 mm
Mounting	PCB	PCB	PCB	Board
Fastening	Screw or Rivet	Screw or Rivet	Screw or Rivet	Screw or Rivet
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	OGD-SMD	OG (Holder) 5x20	OG (Holder) 6.3x32	UH
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)	10 A (UL/CSA)	16 A (UL) , 10 A (CSA)	10 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A	2.5 W / 10 A	2.5 W / 10 A	3.2 W / 10 A
Comment				

Degree of Protection

Approvals				
Catalogue page	xxx	xxx	see WEB	xxx

Fuse-Link	5 x 20 mm	6.3 x 32 mm	6.3 x 32 mm	6.3 x 32 mm
Mounting	Board	Board	Board	Board
Fastening	Screw or Rivet	Screw or Rivet	Screw or Rivet	Screw or Rivet
Terminals	Solder	Solder	Screw Clamp	Screw Clamp
Product picture				
Type	UHB	RSH	23748B	23211B
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	4 A (UL/CSA)	16 A (UL) , 10 A (CSA)	16 A	16 A
Rated Power Acceptance	3.2 W / 4 A	3.2 W / 10 A	3.5 W / 16 A	3.5 W / 16 A
Comment				

Degree of Protection

Approvals			GAM T1 NNO	GAM T1 NNO
Catalogue page	see WEB	see WEB	see WEB	see WEB

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	10.3 x 38 mm	14.3 x 51 mm	14.3 x 51 mm	5 x 20 mm
Mounting	Board	Board	Board	PCB
Fastening	Screw or Rivet	Screw or Rivet	Screw or Rivet	
Terminals	Screw Clamp	Screw Clamp	Screw Clamp	Solder
Product picture				
Type	23351B	23162	231756R	OG (Clip) 5x20
Rated Voltage	500 VAC	500 VAC	380 VAC/DC	250 VAC
Rated Current	30 A	40 A	50 A	6.3 A (UL)
Rated Power Acceptance	3.6 W / 30 A	4 W / 40 A	5 W / 50 A	
Comment				
Degree of Protection	IP 00 / IP 20	IP 00	IP 00	
Approvals	NNO	GAM T1 NNO	NNO	
Catalogue page	see WEB	see WEB	see WEB	xxx
Fuse-Link	5 x 20 mm	5 x 20 mm	5 x 20 mm	6.3 x 32 mm
Mounting	PCB	PCB	PCB	PCB
Fastening				
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	CQM	231828	231683	231685
Rated Voltage	250 VAC	250 VAC	250 VAC	250 VAC
Rated Current	7 A			
Rated Power Acceptance				
Comment				
Degree of Protection				
Approvals				
Catalogue page	see WEB	see WEB	see WEB	see WEB

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	5 x 20 or 6.3 x 32 mm	10.3 x 38 mm	2 x 7 mm	2 x 7 mm
Mounting	PCB	PCB	PCB	PCB
Fastening				
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	OG (Clip) 5x20 / 6.3x32	231660	231787	231786
Rated Voltage	250 VAC	250 VAC	125 VAC/DC	125 VAC/DC
Rated Current	10 A (UL)		7 A (UL/CSA)	7 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A		0.9 W / 7 A	0.9 W / 7 A
Comment				
Degree of Protection				
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Fuse-Link	OMx 63/125 Fuse	Microfuse 125 V	Microfuse 125 V	Microfuse 125 V
Mounting	PCB	PCB	PCB	PCB
Fastening				
Terminals	Solder	Solder	Solder	Solder
Product picture				
Type	OMH 125	FMS (125V)	FMR	FME
Rated Voltage	125 VAC	125 VAC	VAC	VAC
Rated Current	5 A (UL/CSA)	5 A (UL/CSA)	5 A (UL/CSA)	5 A (UL/CSA)
Rated Power Acceptance				
Comment				
Degree of Protection		IP 40	IP 40	IP 40
Approvals				
Catalogue page	xxx	xxx	see WEB	see WEB

SELECTOR CHART

FUSEHOLDERS



Fuse-Link	Microfuse 250 V	PSC Fuse	FRT Fuse
Mounting	PCB	PCB	PCB
Fastening			
Terminals	Solder	Solder	Solder
Product picture	  		
Type	FMS (250V)	231651	231819
Rated Voltage	250 VAC	VAC	250 VAC
Rated Current	6.3 A (UL/CSA)	5 A (UL)	6.3 A
Rated Power Acceptance			
Comment			
Degree of Protection	IP 30		
Approvals			
Catalogue page	xxx	see WEB	see WEB

FPG1



Fingergrip

Panel Mount · Fixing Nut · 5 x 20 mm



Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127216
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

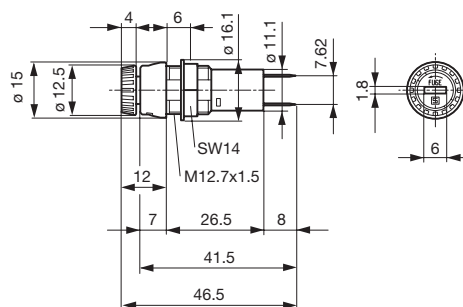
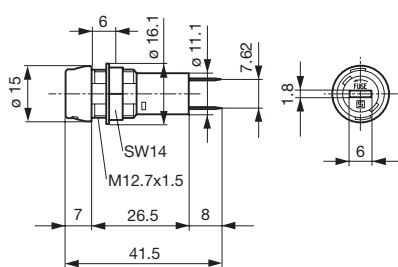
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 6 mm

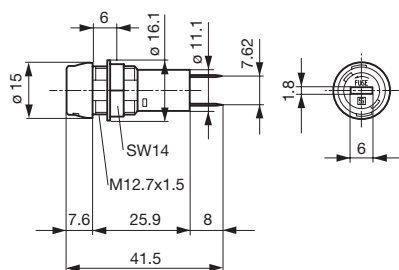
Dimensions

Length | 41.5 mm

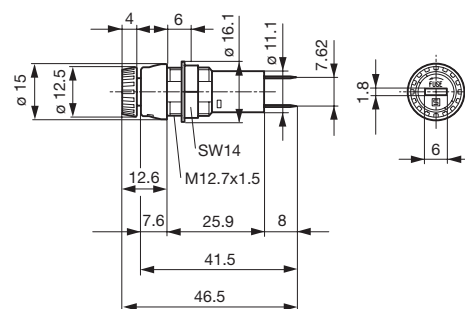


Variants 3101.0010 and 3101.0210

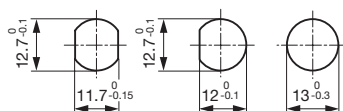
Variants Fingergrasp 3101.0015 and 3101.0215

FPG1

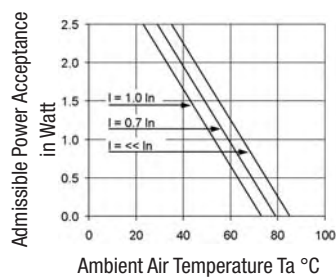
Variants 3101.0110 and 3101.0310



Variants Fingergrasp 3101.0115 and 3101.0315



Mounting holes

Derating Curves**Variants**

Order Number	Holder	Cap	Terminals	Degree of Protection
3101.0010	●	Slotted	Solder	IP 40
3101.0210	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0015	●	Fingergrasp	Solder	IP 40
3101.0215	●	Fingergrasp	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0110	●	Slotted	Solder	IP 67
3101.0310	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 67
3101.0115	●	Fingergrasp	Solder	IP 67
3101.0315	●	Fingergrasp	Quick-Connect 4.8 x 0.5 mm	IP 67

White and grey colours available on request

Packaging Unit Bulk (100 pcs.)

FPG2



Fingergrip

Panel Mount · Fixing Nut · 5 x 20 mm



Description

- Mounting from rear-side

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127216
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

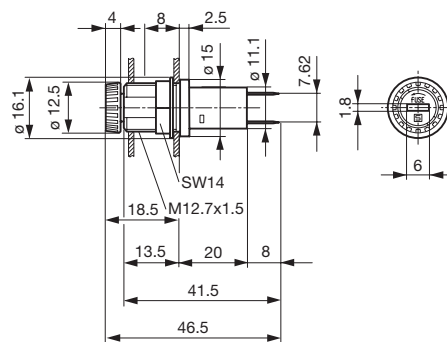
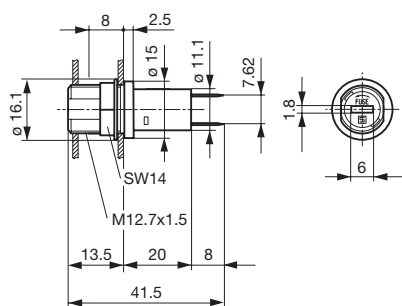
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Rear-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	6.01 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 8 mm

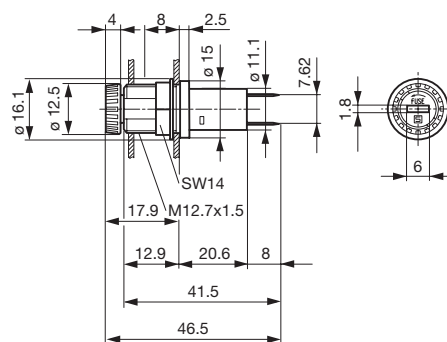
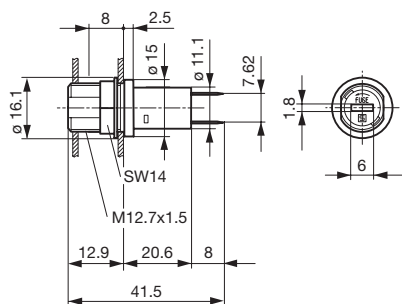
FPG2

Dimensions

Length  46.5 mm

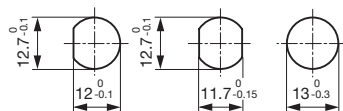
Variants 3101.0020 and 3101.0220

Variants Fingerrip 3101.0025 and 3101.0225



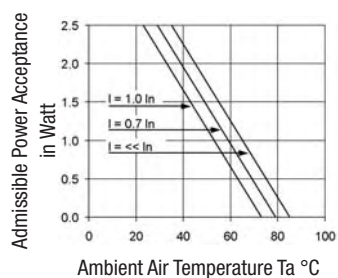
Variants 3101.0120 and 3101.0320

Variants Fingerrip 3101.0125 and 3101.0325



Mounting holes

Derating Curves



FPG2

Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
3101.0020	●	Slotted	Solder	IP 40
3101.0220	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0025	●	Fingergrip	Solder	IP 40
3101.0225	●	Fingergrip	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0120	●	Slotted	Solder	IP 67
3101.0320	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 67
3101.0125	●	Fingergrip	Solder	IP 67
3101.0325	●	Fingergrip	Quick-Connect 4.8 x 0.5 mm	IP 67

White and grey colours available on request

Packaging Unit	Bulk (100 pcs.)
-----------------------	-----------------

FEF



Finger grip

Variant 2

Panel Mount · Fixing Nut · 5 x 20 mm



Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 131952 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

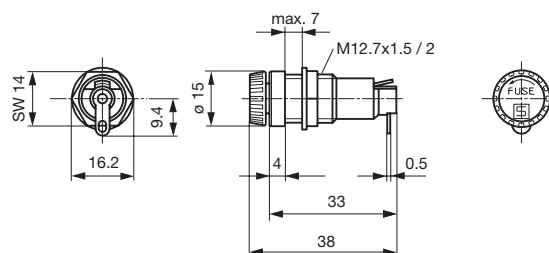
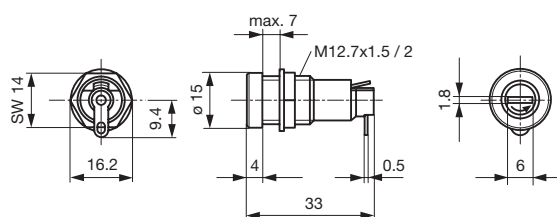
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 2.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 54
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Cap	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.95 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ type, Voltage Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 7 mm

Dimensions

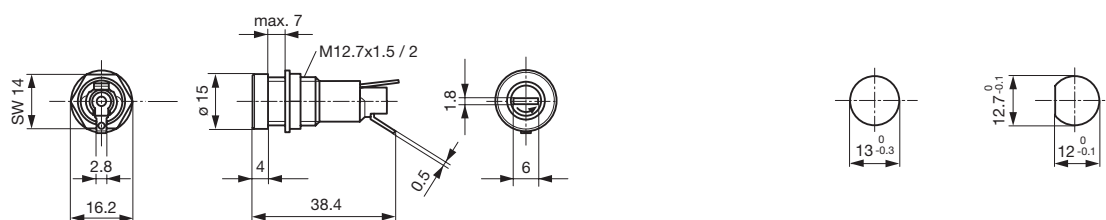
Length 38.4 mm



Variant 0031.1081

Variant Finger grip 0031.1907

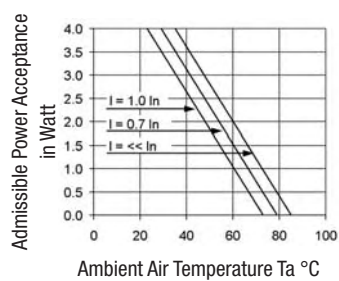
FEF



Variant 2 0031.1185

Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.1081	●	Slotted	Solder	IP 40
0031.1907	●	Fingergrip	Solder	IP 40
0031.1185	●	Slotted	Solder	IP 54

Quick-Connect Terminals on Request

Packaging Unit Bulk (100 pcs.)

FIO



FIO

FIO / FIN

Panel Mount · Fixing Nut · 5 x 20 mm



Description

- IP 40 or IP 65 from frontside
- Screw type fuse carrier

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 133472 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

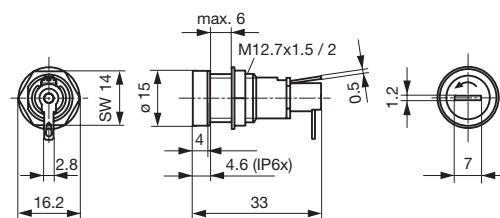
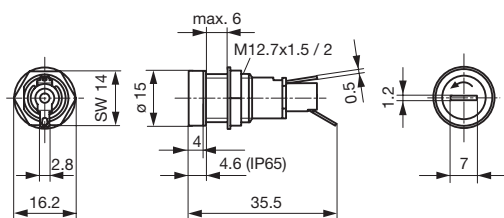
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 2.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 65
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.95 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 6 mm

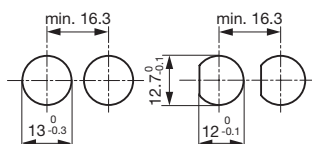
FIO

Dimensions

Length  35.5 mm

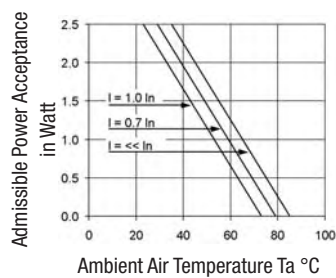
Variants 0031.1361 and 0031.1381

Variants 0031.1363 and 0031.1383



Mounting holes

Derating Curves



Variants

Order Number	Type	Holder	Cap	Terminals	Position End-Terminal	Degree of Protection
0031.1361	FIO	●	Slotted	Solder	30° to Fuse Axis	IP 65
0031.1363	FIO	●	Slotted	Solder	90° to Fuse Axis	IP 65
0031.1381	FIO	●	Slotted	Solder	30° to Fuse Axis	IP 40
0031.1383	FIO	●	Slotted	Solder	90° to Fuse Axis	IP 40

Quick-Connect Terminals on Request

Packaging Unit

Bulk (100 pcs.)

FIN



FIO / FIN

FIN

Panel Mount · Fixing Nut · 5 x 20 mm



Description

- IP 67 from Front and Rear-Side
- Screw type fuse carrier

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 133472 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

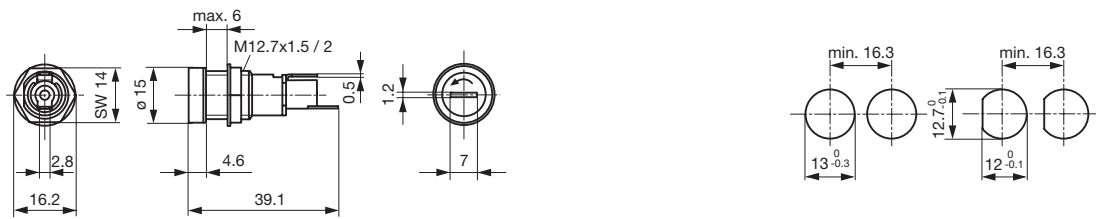
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 2.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.95 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 6 mm

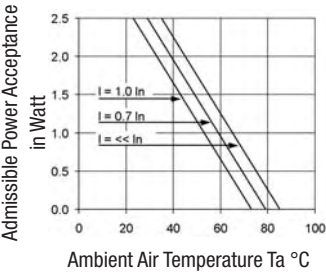
FIN

Dimensions Length |—————| 39.1 mm



Variant 0031.1351 Mounting holes

Derating Curves



Variants

Order Number	Type	Holder	Cap	Terminals	Position End-Terminal	Degree of Protec- tion
0031.1351	FIN	●	Slotted	Solder	Straight to Fuse Axis	IP 67
0031.1353	FIN	●	Slotted	Solder	90° to Fuse Axis	IP 67

Quick-Connect Terminals on Request

Packaging Unit Bulk (100 pcs.)

FBS1



Fingergrip

captive fuse carrier

Panel Mount · Fixing Nut · 5 x 20 mm



Description

- Shocksafe category PC3
- Captive Fuse-Carrier, Slotted or Fingergrip

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 135561 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

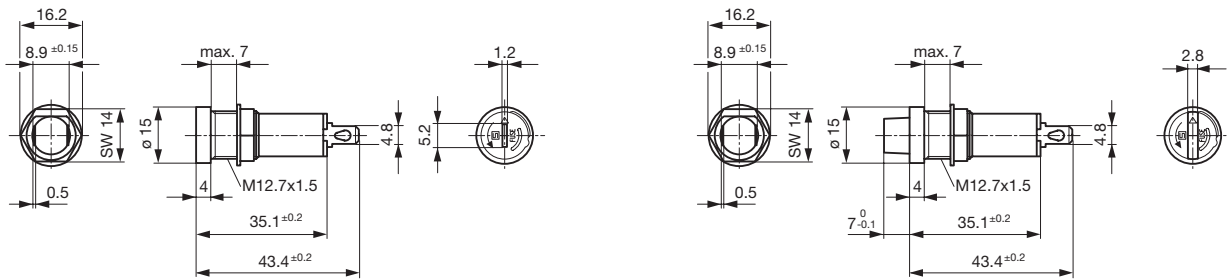
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

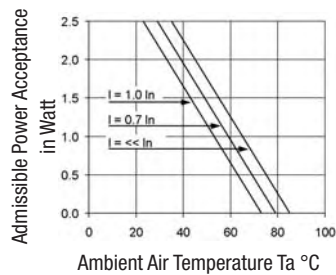
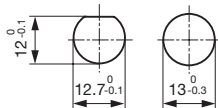
Shocksafe Category	PC3
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.62 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 7 mm

Length 43.4 mm



Variant Fingergrip 0031.3911



Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3901	●	Slotted	Solder	IP 40
0031.3903	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 40
0031.3911	●	Fingergrip	Solder	IP 40
0031.3913	●	Fingergrip	Quick-Connect 4.8 x 0.5 mm	IP 40

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

FIZ



Panel Mount · Fixing Nut · 5 x 20 mm



Description

- For high currents
- Screw type fuse carrier
- 500 V VDE approved fuseholder on request

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127212 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

Technical Data

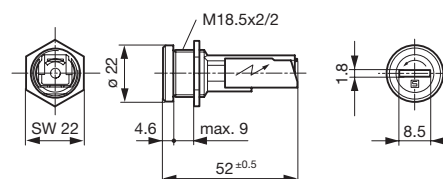
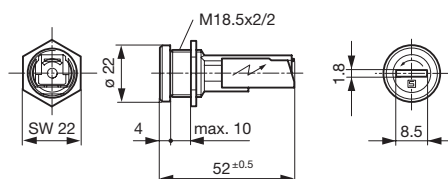
Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 6.3 x 0.8 mm
Rated Voltage	250 VAC
Rated Current	16 A (VDE) , 30 A (UL/CSA)
Rated Power Acceptance	4 W / 16 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight (Socket/Cap)	30 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 3.5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 10 mm

FIZ

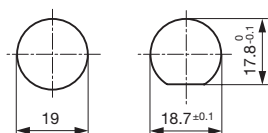
Dimensions

Length  52 mm



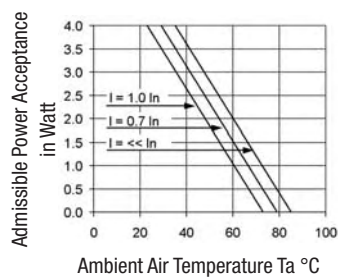
Variants 0031.2201 and 0031.2205

Variants 0031.2203 and 0031.2207



Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.2201	●	Slotted	Solder	IP 40
0031.2205	●	Slotted	Quick-Connect 6.3 x 0.8 mm	IP 40
0031.2203	●	Slotted	Solder	IP 67
0031.2207	●	Slotted	Quick-Connect 6.3 x 0.8 mm	IP 67

Packaging Unit

Bulk (25 pcs.)

23316P



Panel Mount · Fixing Nut · 5 x 20 mm

GAM
T1

NNO

Description

- Screw type fuse carrier

Standards

- NF C 93-436 - Model HB01
 - Qualification Approval Certificate of Quality (CCQ)

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

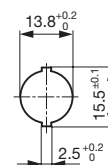
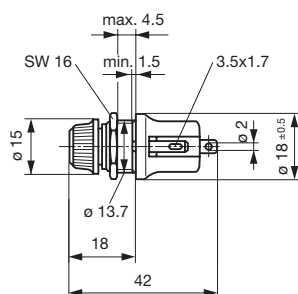
Technical Data

Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Rear-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	6.3 A (NF)
Rated Power Acceptance	1.5 W / 6.3 A @ Ta 23 °C
Degree of Protection	IP 40 / IP 67
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	16 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Current Rating, HB1

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phases D and F
Admissible Torque on Fixing Nut	max 1.0 Nm
Panel Thickness s	max 4.5 mm

Dimensions

Length | 42 mm



Mounting holes

Variants

Order Number	Reference	Holder	Cap	Degree of Protection	NF	GAM T1	NNO
7091.1510	23316P	●	Fingergrip	IP 40	●	●	●
7091.1520	23316ERJJP	●	Fingergrip	IP 67			

Packaging Unit

Bulk (10 pcs.)

231411**Panel Mount · Fixing Nut · 5 x 20 mm****Description**

- Screw type fuse carrier

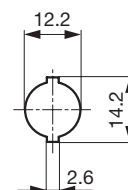
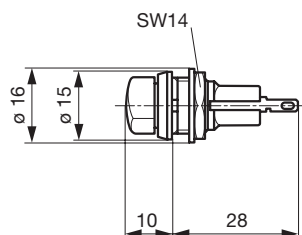
Approvals**References**

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Power Acceptance	1.3 W @ Ta 23 °C
Degree of Protection	IP 40
Climatic Category	// acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Material: Cap	Thermoplastic, Black
Unit Weight (Socket/Cap)	8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Admissible Torque on Fixing Nut	max 1.0 Nm
Panel Thickness s	max 5 mm

DimensionsLength  38 mm

Mounting holes

Variants

Order Number	Reference	Holder	Cap	Degree of Protection
7091.3120	231411	●	Fingergrip	IP 40

Packaging Unit

Bulk (10 pcs.)

231529P



Panel Mount · Fixing Nut · 5 x 20 mm

GAM
T1

NNO

Description

- IP 68 from front-side
- Screw type fuse carrier

Standards

- NF C 93-436 - Model HB13
- Qualification Approval Certificate of Quality (CCQ)

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Approvals

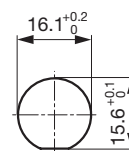
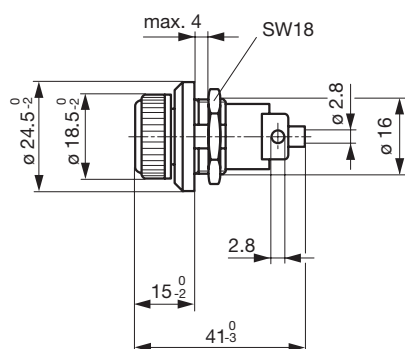
Technical Data

Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	6.3 A (NF)
Rated Power Acceptance	3.4 W / 6.3 A @ Ta 23 °C
Degree of Protection	IP 68
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	25 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D
Admissible Torque on Fixing Nut	max 1.0 Nm
Panel Thickness s	max 4 mm

Dimensions

Length | 41 mm



Mounting holes

Variants

Order Number	Reference	Holder	Cap	Degree of Protection
7091.6110	231529P	●	Fingergrip	IP 68

Packaging Unit

Bulk (10 pcs.)

FPG3



Fingergrip

Panel Mount · Snap-In · 5 x 20 mm



Description

- Panel Thickness 1.0 - 3.0 mm

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127216
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

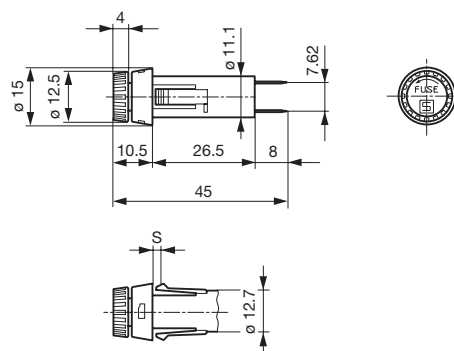
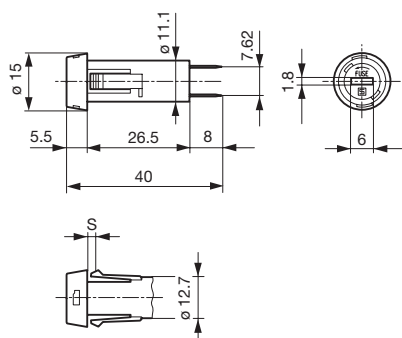
Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Snap-In
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Panel thickness, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Panel Thickness s	1.0 - 3.0 mm

FPG3

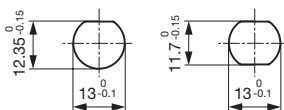
Dimensions

Length | 40 mm



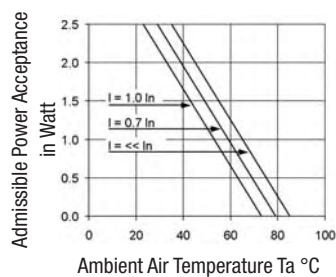
Variants 3101.0030, 3101.0230, 3101.0031 and 3101.0331
s = Panel thickness (see variants)

Variants Fingergrasp 3101.0035, 3101.0235, 3101.0036 and 3101.0336
s = Panel thickness (see variants)



Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Panel Thickness s [mm]	Terminals	Degree of Protection
3101.0030	●	Slotted	1.0 - 1.8 mm	Solder	IP 40
3101.0230	●	Slotted	1.0 - 1.8 mm	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0031	●	Slotted	2.0 - 3.0 mm	Solder	IP 40
3101.0331	●	Slotted	2.0 - 3.0 mm	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0035	●	Fingergrasp	1.0 - 1.8 mm	Solder	IP 40
3101.0235	●	Fingergrasp	1.0 - 1.8 mm	Quick-Connect 4.8 x 0.5 mm	IP 40
3101.0036	●	Fingergrasp	2.0 - 3.0 mm	Solder	IP 40
3101.0336	●	Fingergrasp	2.0 - 3.0 mm	Quick-Connect 4.8 x 0.5 mm	IP 40

White and grey colours available on request

Packaging Unit

Bulk (100 pcs.)

FEF (Snap)



Fingergrip

Variant 2

Variant 2 Fingergrip

Panel Mount · Snap-In · 5 x 20 mm



Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 131952 UG
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

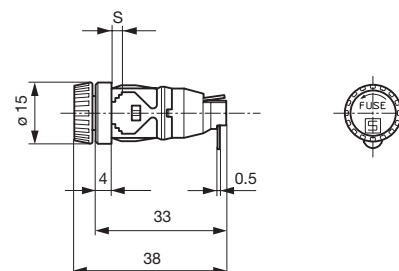
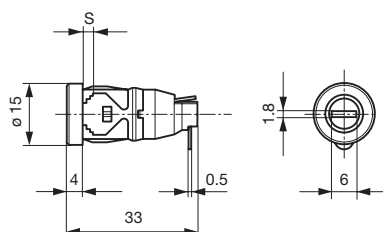
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Snap-In
Terminals	Solder or Quick-Connect 2.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C
Degree of Protection	IP 40
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Cap	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	6.35 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Panel Thickness s	0.75 - 3.0 mm

Dimensions

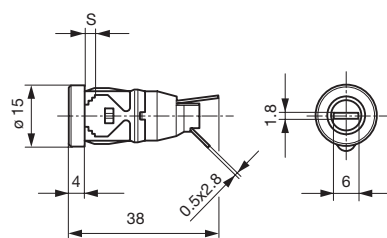
Length | 33 mm



Variant 0031.1091 and 0031.1095
s = Panel thickness (see variants)

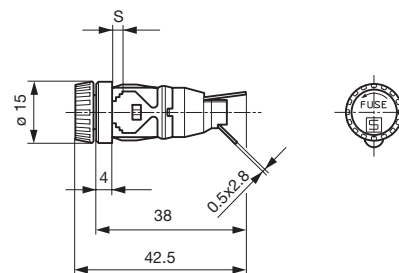
Variant Fingergrip 0031.1901 and 0031.1902
s = Panel thickness (see variants)

FEF (Snap)



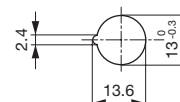
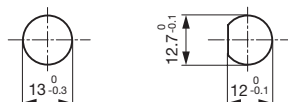
Variant 2 0031.1161 and 0031.1165

s = Panel thickness (see variants)



Variant 2 Fingergrip 0031.1913 and 0031.1914

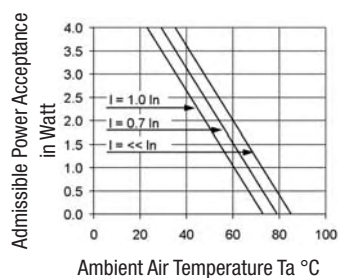
s = Panel thickness (see variants)



Mounting holes 0031.1161, 0031.1165, 0031.1913 and 0031.1914

Mounting holes 0031.1091, 0031.1095, 0031.1901 and 0031.1902

Derating Curves



Variants

Order Number	Holder	Cap	Panel Thickness s [mm]	Terminals	Degree of Protection
0031.1091	●	Slotted	0.75 - 1.5 mm	Solder	IP 40
0031.1095	●	Slotted	1.8 - 3.0 mm	Solder	IP 40
0031.1901	●	Fingergrip	0.75 - 1.5 mm	Solder	IP 40
0031.1902	●	Fingergrip	1.8 - 3.0 mm	Solder	IP 40
0031.1161	●	Slotted	0.75 - 1.5 mm	Solder	IP 40
0031.1165	●	Slotted	1.8 - 3.0 mm	Solder	IP 40
0031.1913	●	Fingergrip	0.75 - 1.5 mm	Solder	IP 40
0031.1914	●	Fingergrip	1.8 - 3.0 mm	Solder	IP 40

Quick-Connect Terminals on Request

Packaging Unit Bulk (100 pcs.)

FPG6



Panel Mount · Press-Fit · 5 x 20 mm



Description

- Press-fit mount, secured with potting compound on the rear side

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127216
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

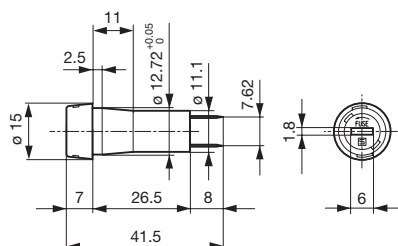
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	Panel Mount, Front-Side
Fastening	Press-Fit
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	350 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc
Panel Thickness s	max 2.5 mm

Dimensions

Length |—————| 41.5 mm

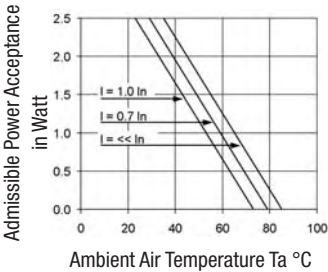


FPG6



Mounting holes

Derating Curves



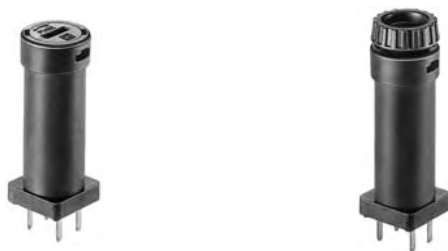
Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
3101.0060	●	Slotted	Solder	IP 40
3101.0260	●	Slotted	Quick-Connect 4.8 x 0.5 mm	IP 40

White and grey colours available on request

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

FPG4



Finger grip

PCB5 x 20 mm



Description

- Vertical style
- Cap is available slotted or finger grip

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 129098
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

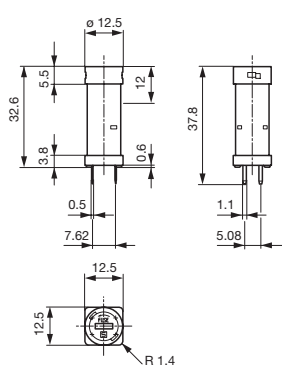
Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	4.66 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

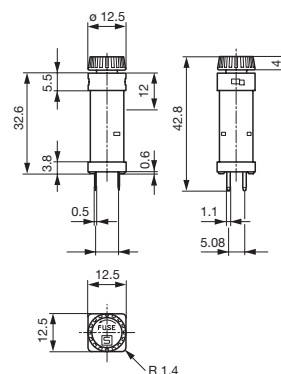
FPG4

Dimensions

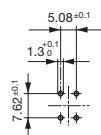
Length | 37.8 mm



Variant 3101.0040

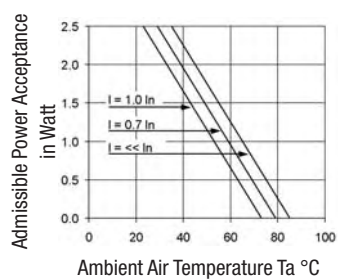


Variant Fingergrip 3101.0045



Drilling diagram

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
3101.0040	●	Slotted	Straight	IP 40
3101.0045	●	Fingergrip	Straight	IP 40

White and grey colours available on request

Packaging Unit

Bulk (100 pcs.)

FAF

Variant 2

PCB5 x 20 mm

**Description**

- Vertical style
- IP 40 oder IP 54 from frontside

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127210 UG / 129370 UG
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

Technical Data

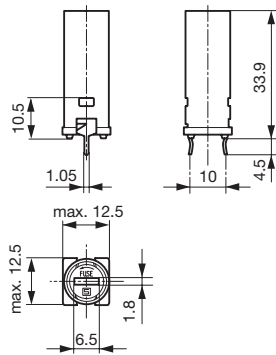
Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	6.3 A (VDE) , 12 A (UL)
Rated Power Acceptance	2 W / 6.3 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 54
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Cap	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.03 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

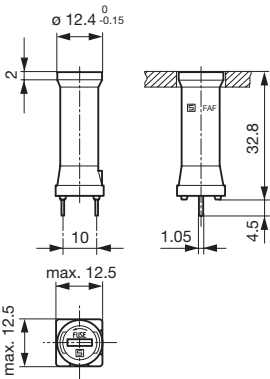
FAF

Dimensions

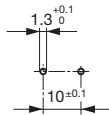
Length  38.4 mm



Variant 0031.3701 and 0031.3703

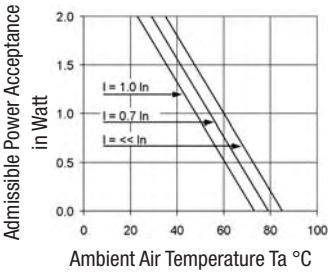


Variant 2 0031.3751 and 0031.3753



Drilling diagram

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3701	●	Slotted	Straight	
0031.3703	●	Slotted	Kicked	
0031.3751	●	Slotted	Straight	IP 40
0031.3753	●	Slotted	Straight	IP 54

Packaging Unit Bulk (100 pcs.)

FAP



PCB5 x 20 mm



Description

- Shocksafe Category PC1
- Vertical style

Standards

- IEC 60127-6

Approvals

- VDE License Number: 40013508

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

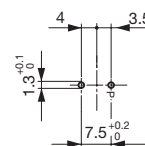
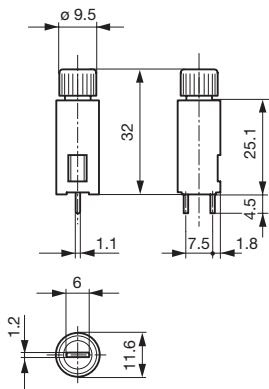
Technical Data

Shocksafe Category	PC1
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	6.3 A (VDE)
Rated Power Acceptance	1.6 W / 6.3 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	4.8 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

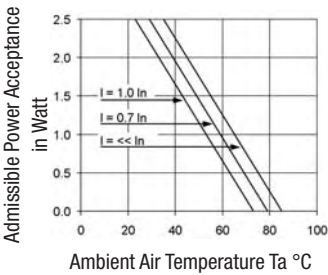
Dimensions

Length  29.6 mm



Variant 0031.3601

FAP
Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3601	●	Slotted	Straight	IP 40

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

231409**PCB5 x 20 mm**GAM
T1

NNO

Description

- Screw type fuse carrier
- PCB mounting horizontal or vertical

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E41738

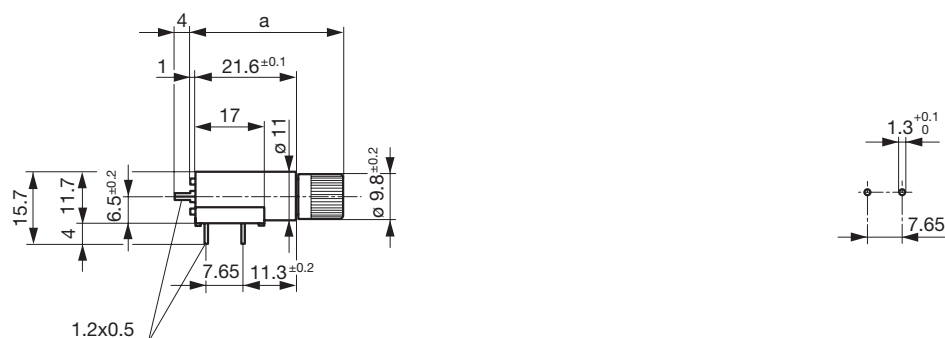
References

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC/DC
Rated Current	10 A
Rated Power Acceptance	1.3 W / 10 A @ Ta 23 °C
Degree of Protection	IP 00
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Material: Cap	Thermoplastic, Black
Unit Weight (Socket/Cap)	6 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29

DimensionsLength  37.5 mm

a = 33.5 Variants 7091.4210, 7091.4240 and 7091.4270

a = 38.5 Variant 7091.4400

Drilling Diagram

FUSEHOLDERS



231409

Variants

Order Number	Reference	Holder	Cap	Mounting	Degree of Protec- tion			GAM T1	NNO
7091.4210	231409	●	Fingergrip	horizontal / vertical	IP 00	●	●	●	●
7091.4240	231409L	●	Fingergrip	vertical	IP 00	●			
7091.4270	231409F	●	Fingergrip	horizontal	IP 00	●			
7091.4400	231632NL	●	Fingergrip	vertical	IP 00				

Packaging Unit Bulk (10 pcs.)

FPG5



Finger grip

PCB5 x 20 mm



Description

- Cap is available slotted or finger grip
- Horizontal style

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 129098
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

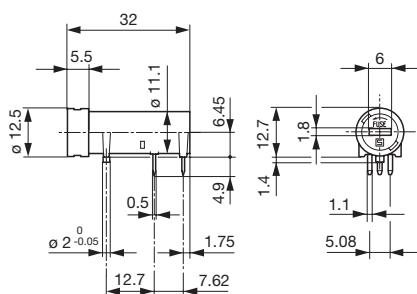
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	4.31 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

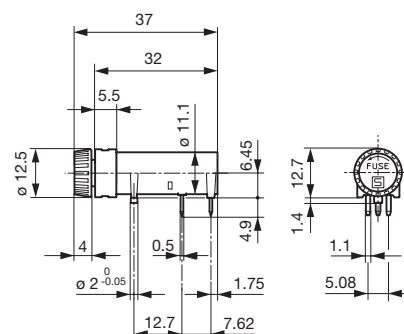
Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

FPG5

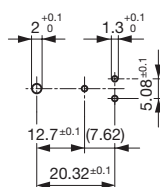
Dimensions

 Length  32 mm


Variant 3101.0050

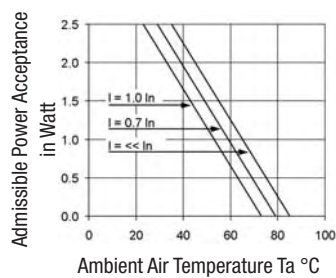


Variant Fingergrasp 3101.0055



Drilling diagram

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
3101.0050	●	Slotted	Straight	IP 40
3101.0055	●	Fingergrasp	Straight	IP 40

White and grey colours available on request

Packaging Unit

Bulk (100 pcs.)

FBS2



captive fuse carrier

PCB5 x 20 mm



Description

- Shocksafe category PC3
- Captive Fuse-Carrier, Slotted or Fingergrip

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 135561 UG
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

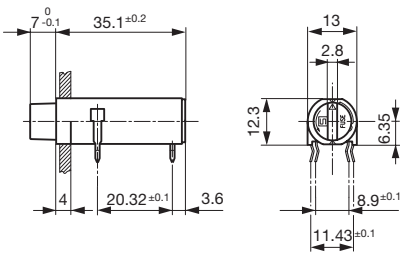
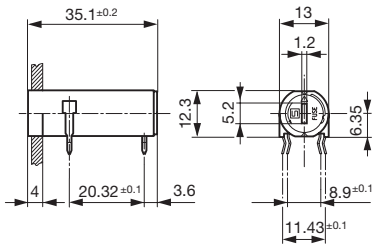
Technical Data

Shocksafe Category	PC3
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	6.84 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

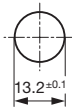
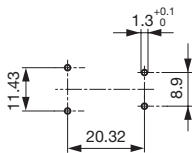
FBS2

Dimensions Length  35.1 mm



Variant 0031.3981

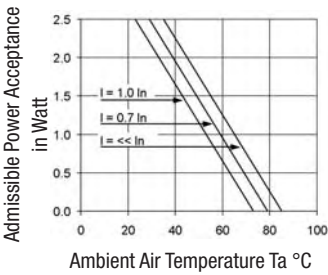
Variant Finger grip 0031.3991



Drilling diagram

Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3981	●	Slotted	Kicked	IP 40
0031.3991	●	Finger grip	Kicked	IP 40

Packaging Unit Bulk (100 pcs.)

FAB



PCB5 x 20 mm



Description

- Kicked or straight PCB-terminals
- Horizontal style

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 133921 (<6.3A), 40001881 UG (<10A)
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

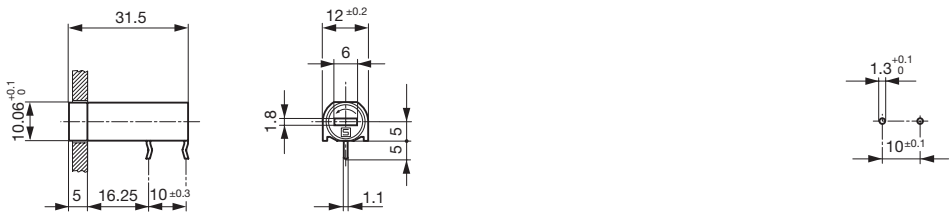
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 12 A (UL)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Cap	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

FAB

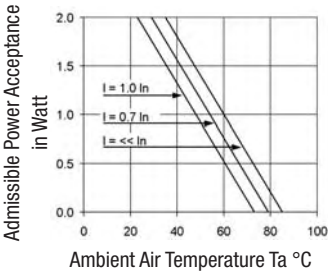
Dimensions Length  31.5 mm



Variant 0031.3551 and 0031.3558

Drilling diagram

Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3551	●	Slotted	Straight	IP 40
0031.3558	●	Slotted	Kicked	IP 40

Packaging Unit Bulk (100 pcs.)

FAS



Fingergrip

PCB5 x 20 mm



Description

- For 400V Applications
- Shocksafe Category PC1

Standards

- IEC 60127-6

Approvals

References

General Product Information see page 383

Weblinks

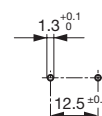
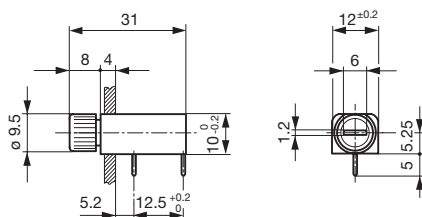
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Shocksafe Category	PC1
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	400 VAC
Rated Current	6.3 A
Rated Power Acceptance	1.6 W / 6.3 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	4.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

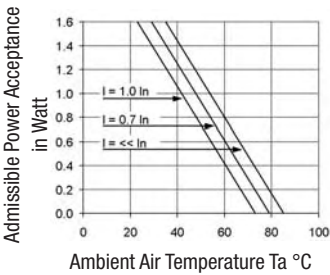
Dimensions

Length  31 mm

Drilling Diagram

Drilling Diagram

FAS
Derating Curves



Variants

Order Number	Holder	Cap	Terminals	Degree of Protection
0031.3501	●	Slotted	Straight	IP 40

Packaging Unit Bulk (100 pcs.)

FPG7



Fingergrip

PCB5 x 20 mm



Description

- Surface Mount Device
- Cap is available slotted or fingergrip

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 129098
- UL File Number: E39328

References

General Product Information see page 383

Packaging Details see page 379

Weblinks

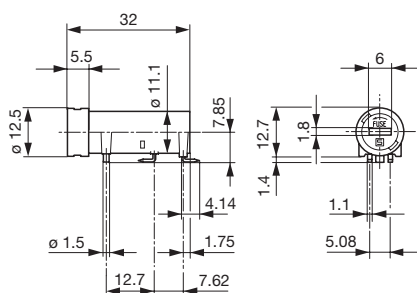
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder SMT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	4.4 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

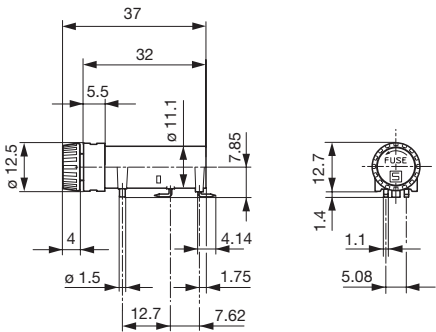
Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-20, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Td
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

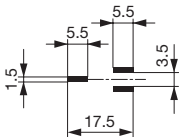


Variant 3101.0070

FPG7

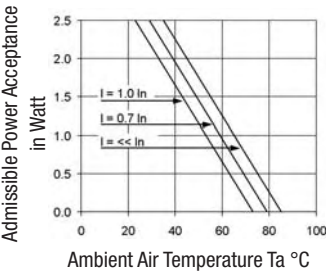


Variant 3101.0075



Solder pads

Derating Curves



Variants

Order Number	Holder	Cap	Degree of Protection
3101.0070	●	Slotted	IP 40
3101.0075	●	Fingergrip	IP 40

White and grey colours available on request

Packaging Unit	Bulk (100 pcs.) xxxx.xxxx.D2 Blister Tape 38 cm Reel (250 pcs.)
----------------	--

23312P



Panel Mount · Fixing Nut · 6.3 x 32 mm

GAM
T1

NNO

Description

- Screw type fuse carrier

Standards

- UL 512
- CSA C22.2 no. 39
- NF C 93-436 - Modell HB02
- Qualification Approval Certificate of Quality (CCQ)

Approvals

- UL File Number: E41738

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

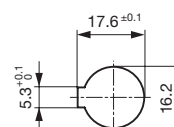
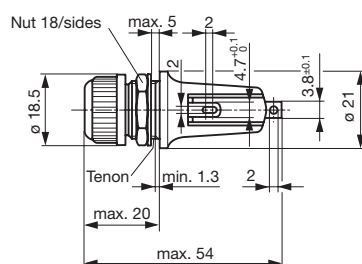
Technical Data

Fuse-Link	6.3 x 32 mm
Mounting	Panel Mount, Rear-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	10 A (UL/CSA) , 10 A (NF)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	19 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Current Rating, Approvals, HB2

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phases D and F
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 5 mm

Dimensions

Length | 54 mm



Mounting holes

23312P

Variants

Order Number	Reference	Holder	Cap	Fuse-Link	Degree of Protec- tion				GAM T1	NNO
7092.2520	23312P	●	Fingergrip	6.3 x 32 mm	IP 40	●	●	●	●	●
7092.2550	23312EJJP	●	Fingergrip	6.3 x 32 mm	IP 67					
7092.2630	23312ERJJP	●	Fingergrip	6.3 x 32 mm	IP 67					

Packaging Unit Bulk (100 pcs.)

23463P



Panel Mount · Fixing Nut · 6.3 x 32 mm



GAM
T1 NNO

Description

- IP 67 from Front-Side
- Screw type fuse carrier

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

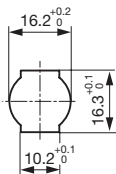
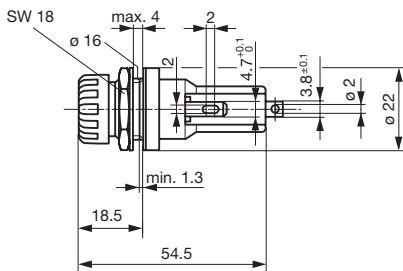
Technical Data

Fuse-Link	6.3 x 32 mm
Mounting	Panel Mount, Rear-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	10 A
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Nature
Material: Cap	Thermoplastic, Nature
Unit Weight (Socket/Cap)	23 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 4 mm

Dimensions

Length | 54.5 mm



Mounting holes

FUSEHOLDERS



23463P

Variants

Order Number	Reference	Holder	Cap	Degree of Protec- tion	Colour Holder	Colour Cap
7092.6150	23463P	●	Fingergrip	IP 67	Grey	Light-Grey
7092.6160	23463NJP	●	Fingergrip	IP 67	Black	Black

Packaging Unit Bulk (100 pcs.)

231549P



Panel Mount · Fixing Nut · 6.3 x 32 mm

GAM
T1

Description

- IP 68 from front-side
- Screw type fuse carrier

Standards

- NF C 93-436 - Modell HB14
- Qualification Approval Certificate of Quality (CCQ)

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

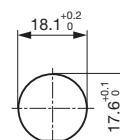
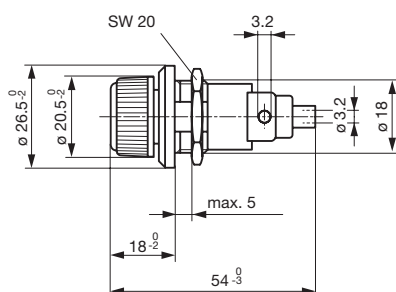
Approvals

Technical Data

Fuse-Link	6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	16 A
Rated Power Acceptance	3.6 W / 16 A @ Ta 23 °C
Degree of Protection	IP 68
Admissible Ambient Air Temp.	-40 °C to 125 °C
Climatic Category	40/125/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	38 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 5 mm

Dimensions

Length  54 mm

Mounting holes

Variants

Order Number	Reference	Holder	Cap	Terminals	Degree of Protection
7093.0110	231549P	●	Fingergrip		IP 68

Packaging Unit

Bulk (10 pcs.)

FEU



Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm



Description

- Quick-connect or solder terminals

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 134125 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

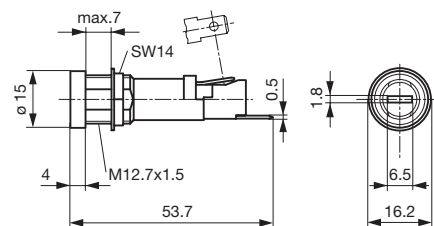
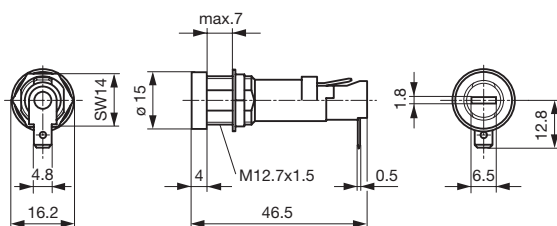
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 4.8 x 0.5 mm
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 20 A (UL)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.5 g / 3.22 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 7 mm

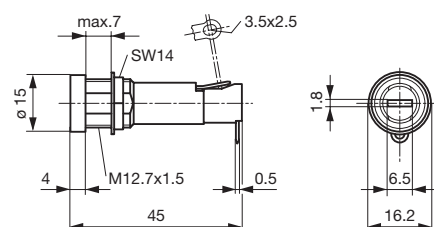
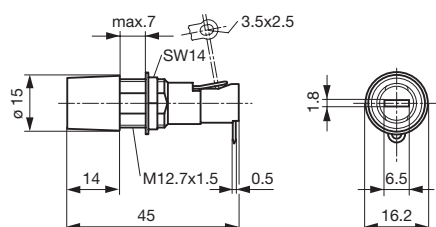
FEU

Dimensions

Length  46.5 mm

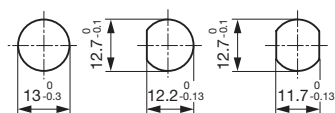
Variant 0031.1693 and 0031.8822

Variant 0031.1694



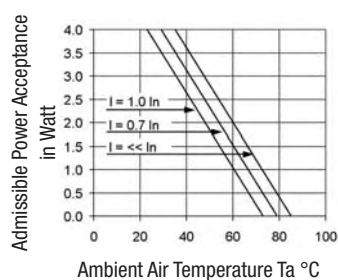
Variant 0031.1653

Variant 0031.1673



Mounting holes

Derating Curves



FEU

Variants

Order Number	Holder	Cap	Fuse-Link	Terminals	Position End-Terminal	Degree of Protection	Colour Cap
0031.1693	●		5 x 20 or 6.3 x 32 mm	Quick-Connect 4.8 x 0.5 mm	90° to Fuse Axis	IP 40	
0031.1694	●		5 x 20 or 6.3 x 32 mm	Quick-Connect 4.8 x 0.5 mm	Straight to Fuse Axis	IP 40	
0031.8822	●		5 x 20 or 6.3 x 32 mm	Solder	90° to Fuse Axis	IP 40	
0031.1653	●		5 x 20 or 6.3 x 32 mm	Solder	90° to Fuse Axis	IP 40	
0031.1673	●		5 x 20 or 6.3 x 32 mm	Solder	90° to Fuse Axis	IP 40	
0031.1661		Slotted	6.3 x 32 mm			IP 40	
0031.1663		Slotted	5 x 20 mm			IP 40	
0031.1666		Slotted	6.3 x 32 mm			IP 40	Grey

Packaging Unit	Bulk (100 pcs.)
-----------------------	-----------------

FEU (Med)

Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm

**Description**

- Quick-connect or solder terminals

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 134125 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

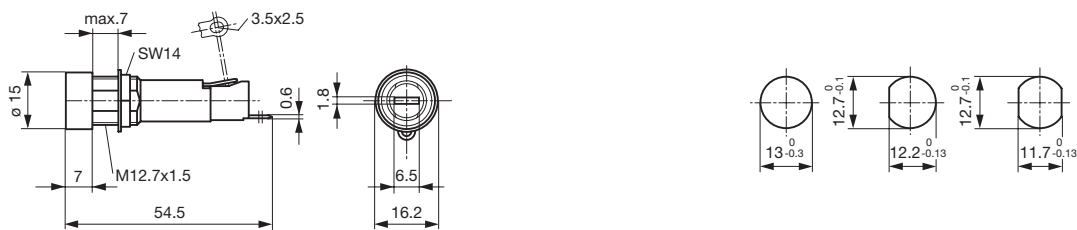
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 20 A (UL)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.5 g / 3.22 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 7 mm

FEU (Med)

Dimensions Length  46.5 mm



Variant 0031.1681

Variants

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protec- tion	Colour Cap
0031.1681	●		5 x 20 or 6.3 x 32 mm	Solder	IP 40	
0031.1661		Slotted	6.3 x 32 mm		IP 40	
0031.1663		Slotted	5 x 20 mm		IP 40	
0031.1666		Slotted	6.3 x 32 mm		IP 40	Grey

Packaging Unit Bulk (100 pcs.)

FEU (Grip)



Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm



Description

- Screw type fuse carrier

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 134125 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

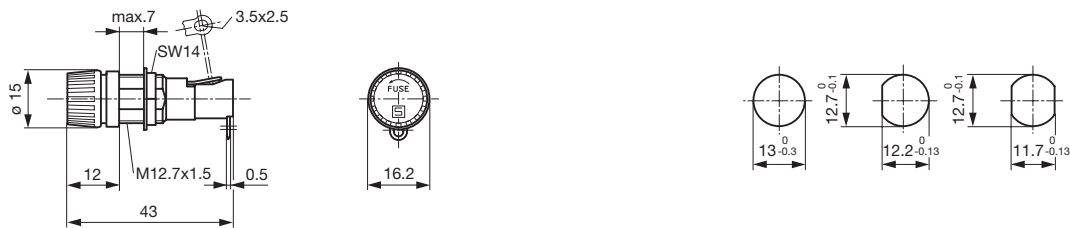
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 20 A (UL)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.5 g / 3.22 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 7 mm

FEU (Grip)

Dimensions



Variant Fingergrip 0031.1801

Variants

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protection
0031.1801	●		5 x 20 or 6.3 x 32 mm	Solder	IP 40
0031.1811		Fingergrip	5 x 20 mm		IP 40
0031.1812		Fingergrip	6.3 x 32 mm		IP 40

Packaging Unit Bulk (100 pcs.)

FEC



Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm



Description

- For 500V applications
- Cap is available slotted or fingergrip

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 137910 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

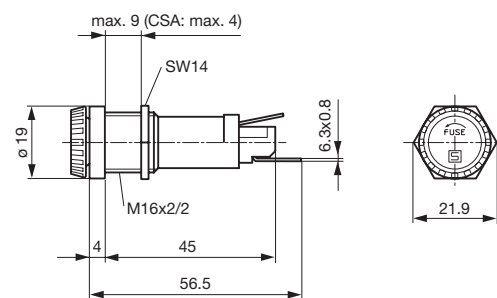
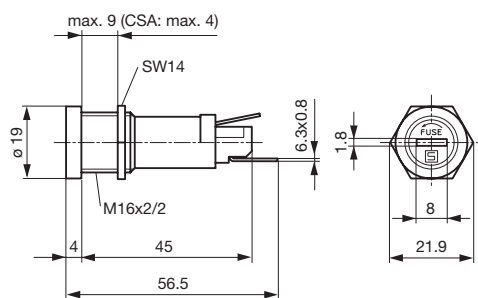
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Quick-Connect 6.3 x 0.8 mm
Rated Voltage	500 VAC
Rated Current	10 A (VDE) , 20 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	9 g / 5.36 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 9 mm

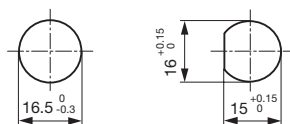
FEC

Dimensions

Length  56.5 mm

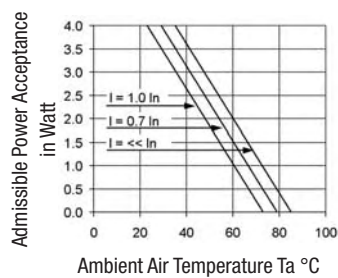
Variant 0031.1631

Variant Fingergrip 0031.1631



Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Fuse-Link	Degree of Protection	Colour Cap
0031.1631	●		5 x 20 or 6.3 x 32 mm	IP 40	
0031.1611		Slotted	5 x 20 mm	IP 40	
0031.1613		Slotted	6.3 x 32 mm	IP 40	
0031.1616		Fingergrip	6.3 x 32 mm	IP 40	

Packaging Unit

Bulk (100 pcs.)

FUL



Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm



Description

- For high currents
- IP 40 or IP 67 from frontside
- Screw type fuse carrier

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 127214 UG
- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

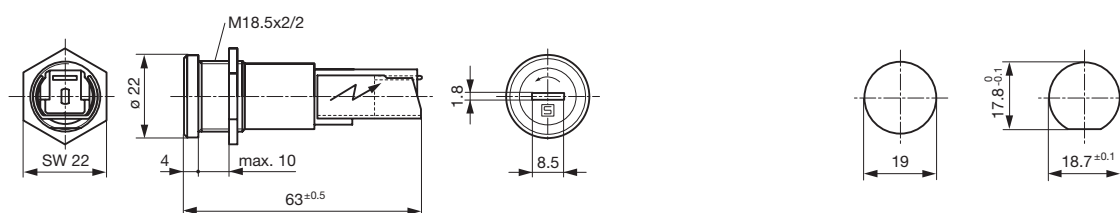
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder or Quick-Connect 6.3 x 0.8 mm
Rated Voltage	250 VAC
Rated Current	16 A (VDE) , 30 A (UL/CSA)
Rated Power Acceptance	4 W / 16 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40 / IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper
Unit Weight (Socket/Cap)	20.4 g / 15.2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 3.5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N > 4 kV between L/N-PE (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N > 6 kV between L/N-PE
Insulation Resistance	> 10 MΩ between L-N > 100 MΩ between L/N-PE (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Admissible Torque on Fixing Nut	max 1.2 Nm
Panel Thickness s	max 10 mm

FUL

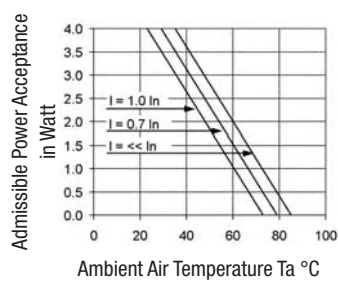
Dimensions

 Length  62.9 mm


Variant 0031.2307 and 0031.2308

Mounting holes

Derating Curves



Variants

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protection
0031.2307	●		5 x 20 or 6.3 x 32 mm	Solder	IP 40
0031.2308	●		5 x 20 or 6.3 x 32 mm	Quick-Connect 6.3 x 0.8 mm	IP 40
0031.2321		Slotted	6.3 x 32 mm		IP 40
0031.2323		Slotted	5 x 20 mm		IP 40
0031.2303	●		5 x 20 or 6.3 x 32 mm	Solder	IP 67
0031.2304	●		5 x 20 or 6.3 x 32 mm	Quick-Connect 6.3 x 0.8 mm	IP 67
0031.2320		Slotted	6.3 x 32 mm		IP 67
0031.2322		Slotted	5 x 20 mm		IP 67

Packaging Unit

Bulk (25 pcs.)

231702



Panel Mount · Fixing Nut · 5 x 20 or 6.3 x 32 mm



NNO

Description

- EMI / RFI shielding
- Screw type fuse carrier

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

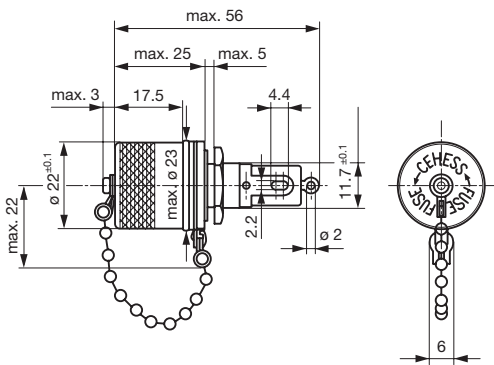
Technical Data

Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	Panel Mount, Front-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	16 A (6.3x32) , 6.3 A (5x20)
Rated Power Acceptance	3.5 W / 16 A @ Ta 23 °C
Degree of Protection	IP 68
Admissible Ambient Air Temp.	-55 °C to 125 °C
Climatic Category	55/125/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	42 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Current Rating

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phases D and F
Admissible Torque on Fixing Nut	max 1.0 Nm
Panel Thickness s	max 5 mm

Dimensions

Length | 56 mm



Mounting holes

231702

Variants

Protection EMI (Electromagnetic's Interferences) and RFI (Radio Frequency Interferences)

1. Attenuation: A > 100dB from 0.1 to 100 MHz

2. Transfer Impedance: Zt < 50 mΩ from 0.1 to 100 MHz

3. Protect the circuit and components against electromagnetics outside perturbations and magnetic fields induced by environmental equipment or occasional perturbations such as lightning

4. Protect against electromagnetic emissions induced by the circuit (secret)

High Temperature Electrical Endurance: 1000h @ 125 °C

Order Number	Reference	Holder	Cap	Fuse-Link	Rated Current [A]	Degree of Protection	NNO
7092.2750	231702	●	Fingergrip	6.3 x 32 mm	16	IP 68	●
7092.2760	231702D1	●	Fingergrip	5 x 20 mm	6.3	IP 68	

Packaging Unit Bulk (10 pcs.)

FAC



PCB5 x 20 or 6.3 x 32 mm



Description

- Kicked or straight PCB-terminals
- Vertical style

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 6945 UG
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

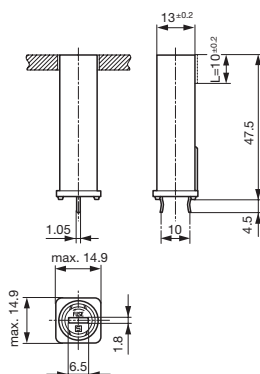
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	3.2 W / 10 A @ Ta 23 °C 2.5 W / 10 A for 5x20 mm fuse-link, see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	6.5 g / 2.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

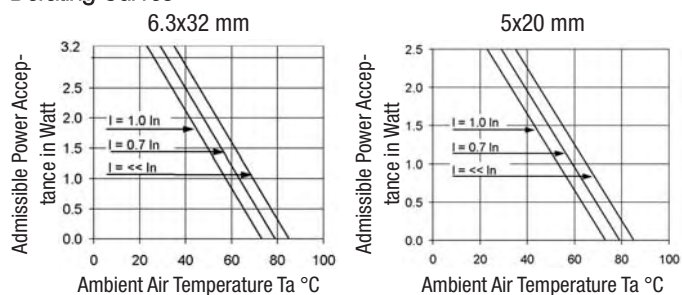
Dimensions

Length | 47.5 mm



Variant 0031.3803 and 0031.3804

Drilling diagram

FAC**Derating Curves****Variants**

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protection	Colour Cap
0031.3803	●		5 x 20 or 6.3 x 32 mm	Straight	IP 40	
0031.3804	●		5 x 20 or 6.3 x 32 mm	Kicked	IP 40	
0031.1661		Slotted	6.3 x 32 mm		IP 40	
0031.1663		Slotted	5 x 20 mm		IP 40	
0031.1666		Slotted	6.3 x 32 mm		IP 40	Grey

Packaging Unit Bulk (100 pcs.)

FAU



PCB5 x 20 or 6.3 x 32 mm



Description

- Kicked or straight PCB-terminals
- Horizontal style

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 6946
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

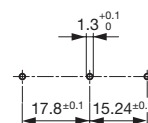
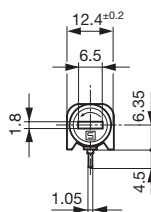
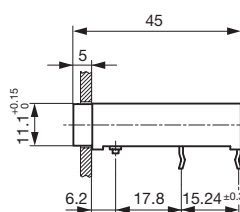
Technical Data

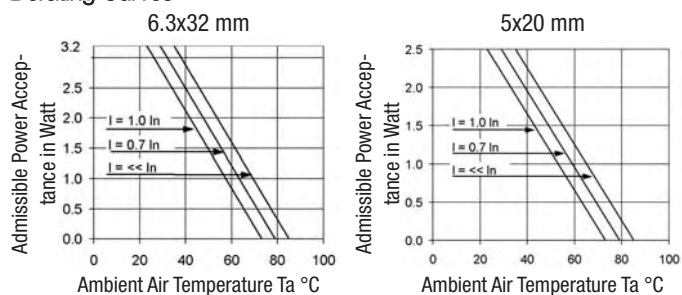
Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	3.2 W / 10 A @ Ta 23 °C 2.5 W / 10 A for 5x20 mm fuse-link, see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	5.1 g / 2.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length | 45 mm



FAU**Derating Curves****Variants**

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protection	Colour Cap
0031.3573	●		5 x 20 or 6.3 x 32 mm	Straight	IP 40	
0031.3577	●		5 x 20 or 6.3 x 32 mm	Kicked	IP 40	
0031.1661		Slotted	6.3 x 32 mm		IP 40	
0031.1663		Slotted	5 x 20 mm		IP 40	
0031.1666		Slotted	6.3 x 32 mm		IP 40	Grey

Packaging Unit Bulk (100 pcs.)

231618

PCB5 x 20 or 6.3 x 32 mm

GAM
T1**Description**

- Screw type fuse carrier

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E41738

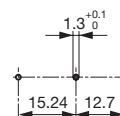
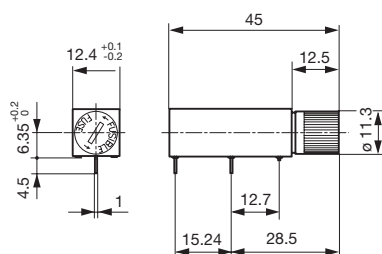
References

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	16 A (UL/CSA)
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Material: Cap	Thermoplastic, Black
Unit Weight (Socket/Cap)	13 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27

DimensionsLength  45 mm**Drilling Diagram****Variants**

Order Number	Reference	Holder	Cap	Fuse-Link
7091.7100	231618	●		5 x 20 or 6.3 x 32 mm
7091.7090	231673		Fingergrip	5 x 20 mm
7091.7130	231672		Fingergrip	6.3 x 32 mm

231618

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

FUP



PCB5 x 20 or 6.3 x 32 mm



Description

- For high currents
- Horizontal style

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 40010391
- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

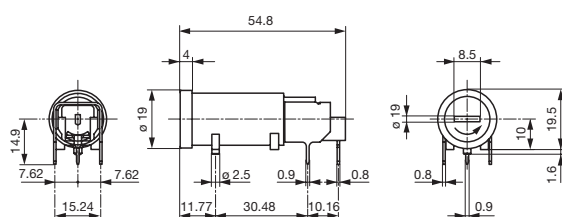
Technical Data

Shocksafe Category	PC2
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	16 A (VDE) , 30 A (UL/CSA)
Rated Power Acceptance	4 W / 16 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 40
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	14.2 g / 14.1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Current Rating, Approvals

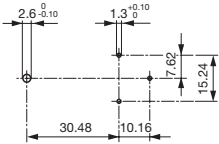
Soldering Methods	Iron
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length |—————| 54.8 mm

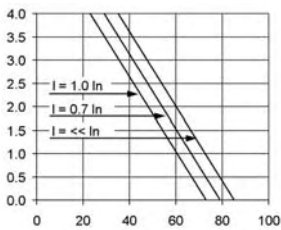


FUP



Drilling Diagram

Derating Curves



Variants

Order Number	Holder	Cap	Fuse-Link	Terminals	Degree of Protection
0031.2500	●		5 x 20 or 6.3 x 32 mm		
0031.2321		Slotted	6.3 x 32 mm		IP 40
0031.2323		Slotted	5 x 20 mm		IP 40

Packaging Unit Bulk (25 pcs.)

231600P



Panel Mount · Fixing Nut · 4.7 x 16 mm

GAM
T1 NNO

Description

- Screw type fuse carrier

References

General Product Information see page 383

Approvals

Weblinks

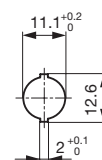
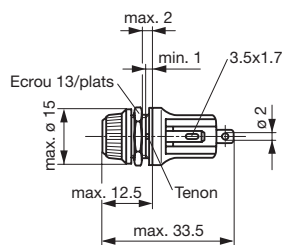
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	4.7 x 16 mm
Mounting	Panel Mount, Rear-Side
Fastening	Fixing Nut
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	5 A
Rated Power Acceptance	1 W / 5 A @ Ta 23 °C
Degree of Protection	IP 67
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	8.2 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type

Soldering Methods	Iron
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D
Admissible Torque on Fixing Nut	max 0.7 Nm
Panel Thickness s	max 2 mm

Dimensions

Length  33.5 mm

Mounting holes

Variants

Order Number	Reference	Holder	Cap	Degree of Protection
7090.6020	231600P	●	Fingergrip	IP 67

Packaging Unit

Bulk (10 pcs.)

23530P



Panel Mount 10.3 x 38 mm



NNO

Description

- Screw type fuse carrier

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E41738

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

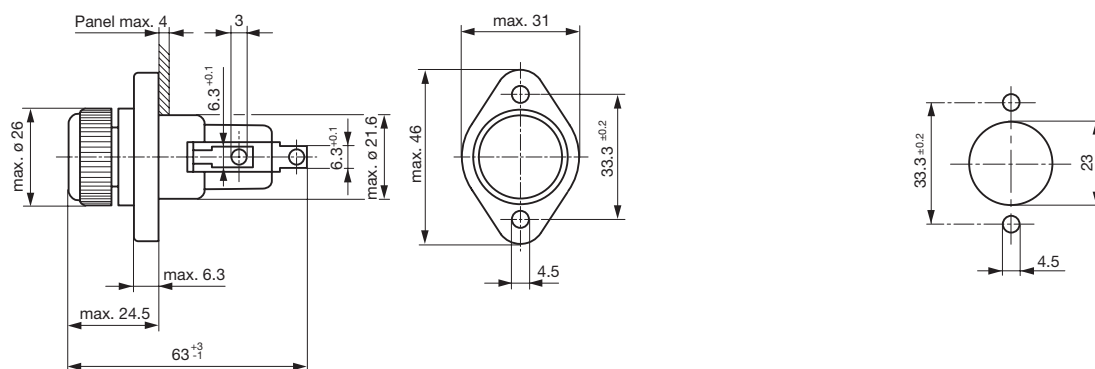
Technical Data

Fuse-Link	10.3 x 38 mm
Mounting	Panel Mount, Front-Side
Terminals	Quick-Connect 6.3 x 0.8 mm
Rated Voltage	600 VAC
Rated Current	25 A
Rated Power Acceptance	4.5 W / 25 A @ Ta 23 °C
Degree of Protection	IP 40 / IP 67
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	48 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Type, Voltage Rating, Current Rating

Soldering Methods	Iron
Panel Thickness s	max 4 mm

Dimensions

Length | 63 mm



Mounting holes

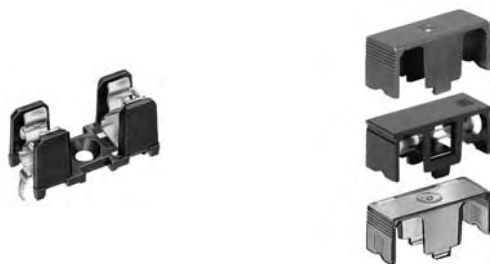
Variants

Order Number	Reference	Holder	Cap	Degree of Protection	NNO		
7093.2510	23530P	●	Fingergrip	IP 40	●	●	●
7093.2540	23530JJP	●	Fingergrip	IP 67			●

Packaging Unit

Bulk (10 pcs.)

OGN



OGN

PCB · Screw or Rivet · 5 x 20 mm



Description

- low profile fuse block with insulation walls
- Optional covers, see accessories
- Screw or rivet fastening

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 40001042
- UL File Number: E39328

References

General Product Information see page 383

Packaging Details see page 379

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

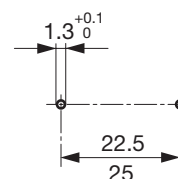
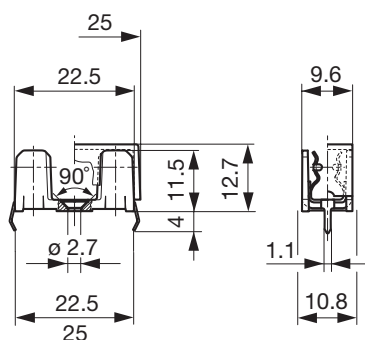
Technical Data

Fuse-Link	5 x 20 mm
Mounting	PCB
Fastening	Screw or Rivet
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C 2.5 W / 10 A with transparent cover, see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	1.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

Dimensions

Length | 22.5 mm

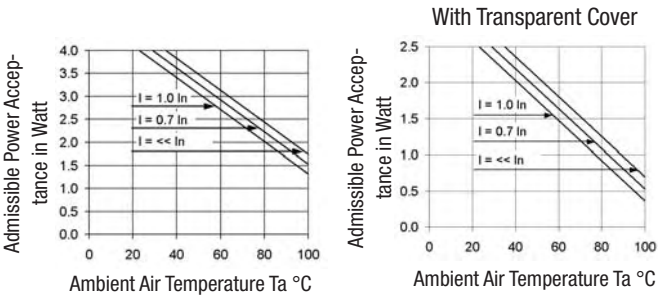


Variant 0031.8201 and 0031.8211

Drilling Diagram

OGN

Derating Curves

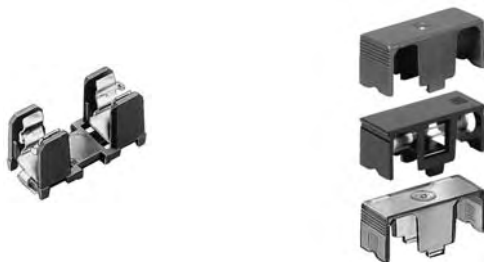


Variants

Order Number	Type	Holder	Terminals	Pin distance	Packaging
0031.8201	OGN	●	THT	22.5	
0031.8211	OGN	●	THT	25	

Packaging Unit Bulk (100 pcs.)

OGN-SMD



OGN-SMD

PCB5 x 20 mm



Description

- low profile fuse block with insulation walls
- Optional covers, see accessories

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 40001042
- UL File Number: E39328

References

General Product Information see page 383

Packaging Details see page 379

Accessories see page 357

Weblinks

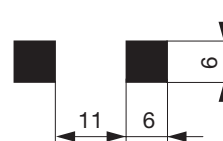
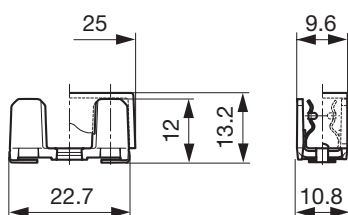
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder SMT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 10 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C 2.5 W / 10 A with transparant cover, see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	1.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

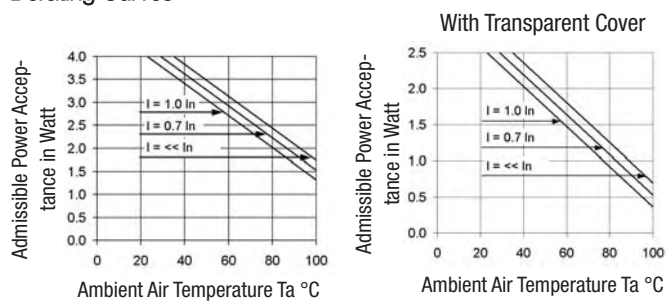
Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-20, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Td
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

Dimensions

Length  22.7 mm

Variant 0031.8221, 0031.8222 and 0031.8225

Solder pads

OGN-SMD**Derating Curves****Variants**

Order Number	Type	Holder	Terminals	Pin distance	Packaging
0031.8221	OGN-SMD	●	SMT		Bulk (100 pcs.)
0031.8222	OGN-SMD	●	SMT		Blister Tray 266 x 173 mm (500 pcs.)
0031.8225	OGN-SMD	●	SMT		Blister Tape 38 cm Reel (400 pcs.)

Packaging Unit see variants

OGN-SMD**Order Numbers for preassembled articles, packaging blister tape 400 pieces.**

Rated current I _n	with cover 0853.0571 with Fuses FTT	without cover with Fuses FTT	with cover 0853.0571 with Fuses FST	without cover with Fuses FST	with cover 0853.0571 with Fuses FSF	without cover with Fuses FSF
50 mA			0031.8304	0031.8354		
63 mA	0031.8501	0031.8551	0031.8305	0031.8355		
80 mA	0031.8502	0031.8552	0031.8306	0031.8356		
100 mA	0031.8503	0031.8553	0031.8307	0031.8357		
125 mA	0031.8504	0031.8554	0031.8308	0031.8358		
160 mA	0031.8505	0031.8555	0031.8309	0031.8359		
200 mA	0031.8506	0031.8556	0031.8310	0031.8360		
250 mA	0031.8507	0031.8557	0031.8311	0031.8361		
315 mA	0031.8508	0031.8558	0031.8312	0031.8362		
400 mA	0031.8509	0031.8559	0031.8313	0031.8363		
500 mA	0031.8510	0031.8560	0031.8314	0031.8364	0031.8413	0031.8463
630 mA	0031.8511	0031.8561	0031.8315	0031.8365	0031.8414	0031.8464
800 mA	0031.8512	0031.8562	0031.8316	0031.8366	0031.8415	0031.8465
1 A	0031.8513	0031.8563	0031.8317	0031.8367	0031.8416	0031.8466
1,25 A	0031.8514	0031.8564	0031.8318	0031.8368	0031.8417	0031.8467
1,6 A	0031.8515	0031.8565	0031.8319	0031.8369	0031.8418	0031.8468
2 A	0031.8516	0031.8566	0031.8320	0031.8370	0031.8419	0031.8469
2,5 A	0031.8517	0031.8567	0031.8321	0031.8371	0031.8420	0031.8470
3,15 A	0031.8518	0031.8568	0031.8322	0031.8372	0031.8421	0031.8471
4 A	0031.8519	0031.8569	0031.8323	0031.8373	0031.8422	0031.8472
5 A			0031.8324	0031.8374	0031.8423	0031.8473
6,3 A			0031.8325	0031.8375	0031.8424	0031.8474
8 A			0031.8326	0031.8376	0031.8425	0031.8475
10 A			0031.8327	0031.8377	0031.8426	0031.8476

OGD



OGD

PCB · Screw or Rivet · 5 x 20 or 6.3 x 32 mm



Description

- low profile fuse block with insulation walls
- Optional covers, see accessories
- Fuse block accepts 5x20 or 6.3x32 fuse-links

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 40008993
- UL File Number: E39328

References

General Product Information see page 383
 Packaging Details see page 379
 Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

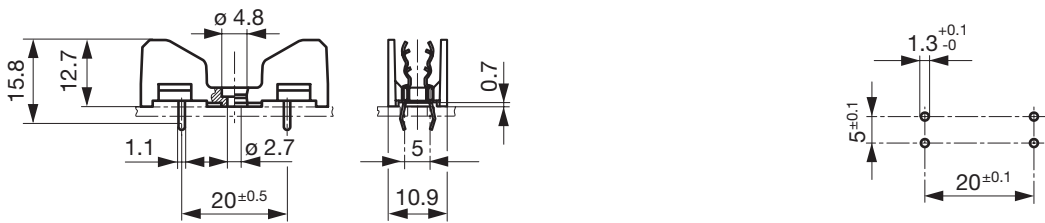
Technical Data

Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Fastening	Screw or Rivet
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	3.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

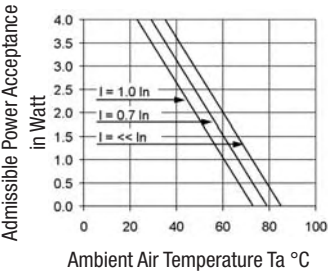
OGD

Dimensions Length 35.4 mm



Variant 0031.8231 Drilling holes

Derating Curves



Variants

Order Number	Type	Holder	Terminals
0031.8231	OGD	●	THT

Packaging Unit Bulk (100 pcs.)

OGD-SMD



OGD-SMD

PCB · Screw or Rivet · 5 x 20 or 6.3 x 32 mm



Description

- low profile fuse block with insulation walls
- Optional covers, see accessories
- Fuse block accepts 5x20 or 6.3x32 fuse-links

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- VDE License Number: 40008993
- UL File Number: E39328

References

General Product Information see page 383
 Packaging Details see page 379
 Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>
 RoHS: <http://www.schurter.com/rohs>

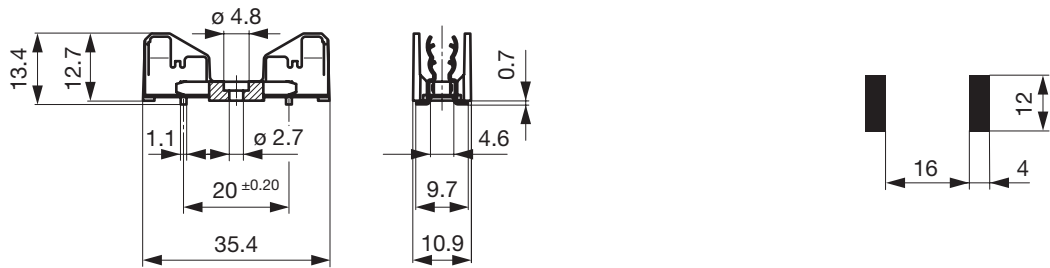
Technical Data

Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Fastening	Screw or Rivet
Terminals	Solder SMT
Rated Voltage	250 VAC
Rated Current	10 A (VDE) , 16 A (UL/CSA)
Rated Power Acceptance	4 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	3.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	□ Type, Voltage Rating, Power Acc./Current Ratings, Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-20, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Td
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1
Resistance to Vibration	acc. to IEC 60068-2-6, test Fc

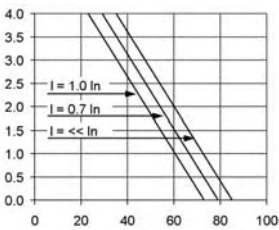
OGD-SMD

Dimensions Length |—————| 35.4 mm



Variant 0031.8241 Solder pads

Derating Curves



Variants

Order Number	Type	Holder	Terminals
0031.8241	OGD-SMD	●	SMT

Packaging Unit Bulk (100 pcs.)
xxxx.xxxx.F1 Bar Packaging (20x50 pcs.)

OG (Holder) 5x20

PCB · Screw or Rivet · 5 x 20 mm

**Description**

- Optional covers, see accessories

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

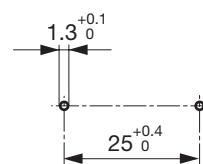
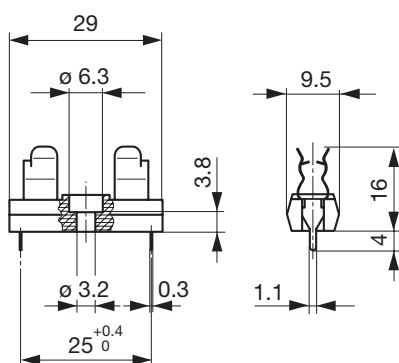
Technical Data

Fuse-Link	5 x 20 mm
Mounting	PCB
Fastening	Screw or Rivet
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (UL/CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C 2 W / 10 A with cover, see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	2.9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

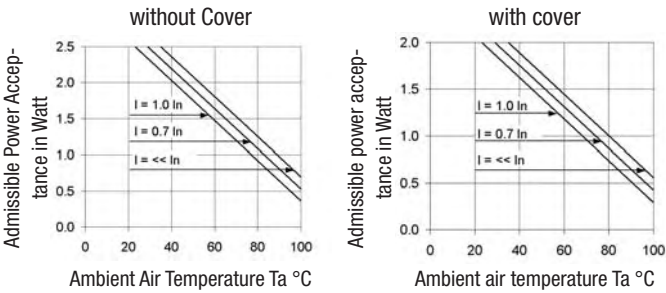
Length  29 mm



Drilling Diagram

OG (Holder) 5x20

Derating Curves



Variants

Order Number	Holder
0031.8001	●

Packaging Unit Bulk (100 pcs.)

OG (Holder) 6.3x32

PCB · Screw or Rivet · 6.3 x 32 mm

**Description**

- Through hole mounting

Approvals

- UL File Number: E39328

References

General Product Information see page 383

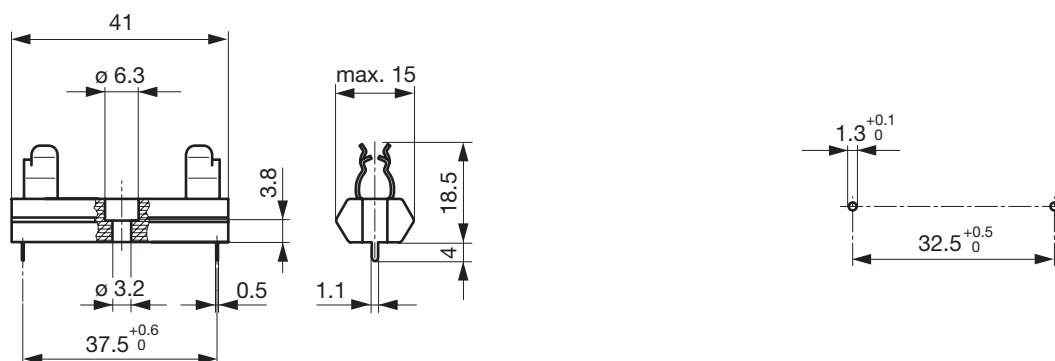
WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	6.3 x 32 mm
Mounting	PCB
Fastening	Screw or Rivet
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	16 A (UL) , 10 A (CSA)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	7.23 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

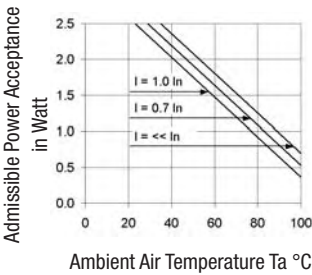
Dimensions

Length |—————| 41 mm



Drilling Diagram

OG (Holder) 6.3x32
Derating Curves



Variants

Order Number	Holder
0031.8002	●

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

UH



Board · Screw or Rivet · 5 x 20 mm



Description

- Optional covers, see accessories

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

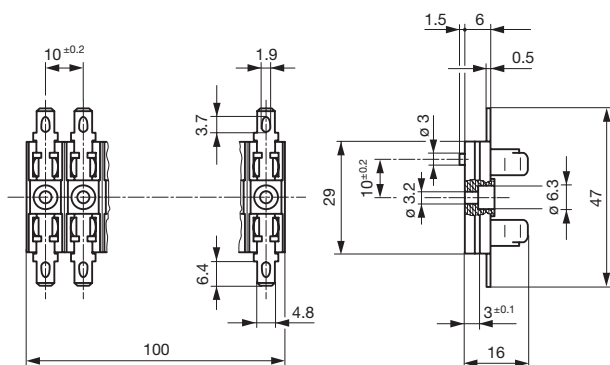
Technical Data

Fuse-Link	5 x 20 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	10 A (UL/CSA)
Rated Power Acceptance	3.2 W / 10 A @ Ta 23 °C 2.5 W / 10 A with cover, see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Nickel-Silver
Unit Weight (Socket/Cap)	3.62 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, Approvals

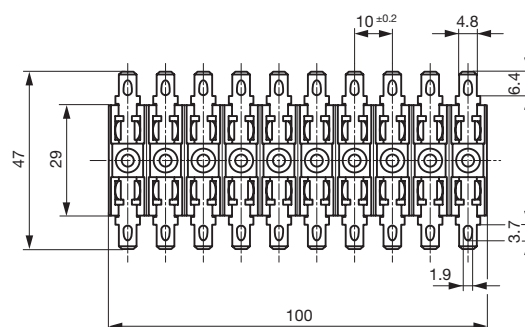
Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length | 47 mm



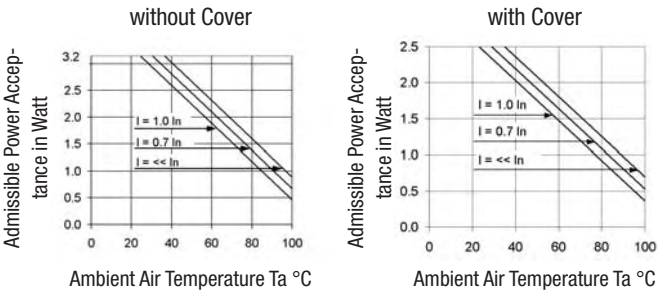
Variant 0031.5001



Variant 0031.5010

UH

Derating Curves



Variants

Order Number	Holder	Strip
0031.5001	●	
0031.5010		●

Packaging Unit Bulk (100 pcs.)

UHB



Board · Screw or Rivet · 5 x 20 mm



Description

- Screw or rivet fastening
- Solder terminals

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Accessories see page 357

Weblinks

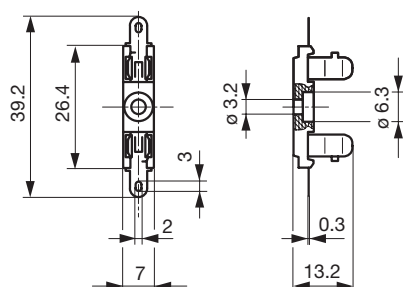
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	5 x 20 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	4 A (UL/CSA)
Rated Power Acceptance	3.2 W / 4 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Nature, UL 94V-1
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	1.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Voltage Rating, Current Rating, Approvals

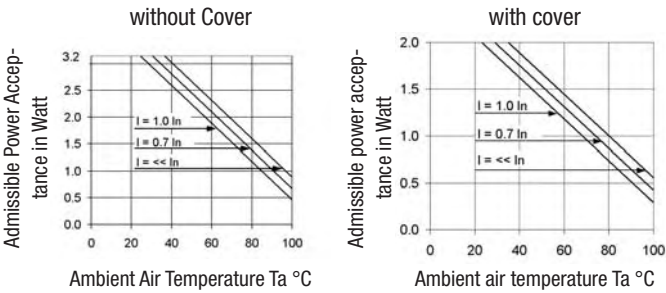
Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 10 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length  39.2 mm

UHB

Derating Curves



Variants

Order Number	Holder
0031.5101	●

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

RSH



Board · Screw or Rivet · 6.3 x 32 mm



Description

- Screw or rivet fastening

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

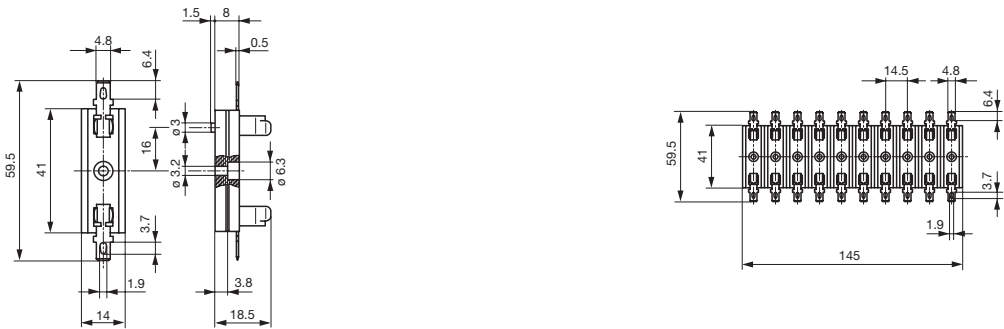
Technical Data

Fuse-Link	6.3 x 32 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Solder
Rated Voltage	250 VAC
Rated Current	16 A (UL) , 10 A (CSA)
Rated Power Acceptance	3.2 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Nickel-Silver
Unit Weight (Socket/Cap)	7.27 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Voltage Rating, Current Rating, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

RSH

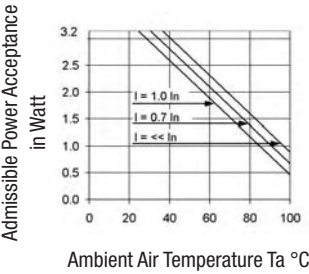
Dimensions Length 59.5 mm



Variant 0031.6001

Variant 0031.6010

Derating Curves



Variants

Order Number	Holder	Strip
0031.6001	●	
0031.6010		●

Packaging Unit Bulk (100 pcs.)

23748B



Board · Screw or Rivet · 6.3 x 32 mm

GAM
T1 NNO

Description

- Screw or rivet fastening

References

General Product Information see page 383

Approvals

Weblinks

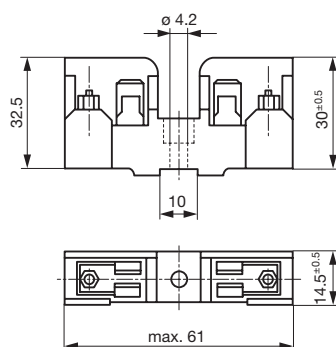
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	6.3 x 32 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Screw Clamp
Rated Voltage	250 VAC
Rated Current	16 A
Rated Power Acceptance	3.5 W / 16 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 00
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Light-Grey
Unit Weight (Socket/Cap)	40 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, HB5

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D

Dimensions

Length  61 mm

Variants

Order Number	Type	Reference	Holder	Colour Holder
7083.2110	23748B	23748B	●	Light-Grey

23748B

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

23211B**Board · Screw or Rivet · 6.3 x 32 mm****GAM
T1 NNO****Description**

- Screw or rivet fastening

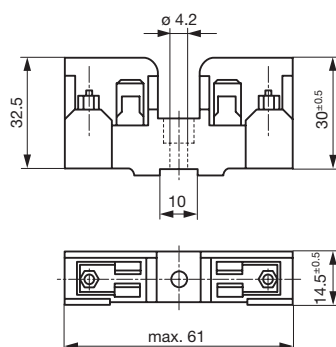
References

General Product Information see page 383

Approvals**Weblinks**Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	6.3 x 32 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Screw Clamp
Rated Voltage	250 VAC
Rated Current	16 A
Rated Power Acceptance	3.5 W / 16 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 00
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	40 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, HB5

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D

DimensionsLength  61 mm**Variants**

Order Number	Type	Reference	Holder	Colour Holder
7083.1110	23211B	23211B	●	Black

23211B

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

23351B



Board · Screw or Rivet · 10.3 x 38 mm



NNO

Description

- Screw or rivet fastening

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

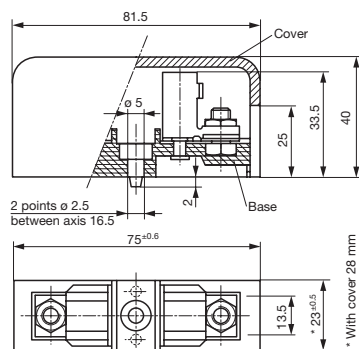
Technical Data

Fuse-Link	10.3 x 38 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Screw Clamp
Rated Voltage	500 VAC
Rated Current	30 A
Rated Power Acceptance	3.6 W / 30 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 00 / IP 20
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/56 acc. to IEC 60068-1
Material: Socket	Thermoset, Black
Unit Weight (Socket/Cap)	60 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, HB7

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11

Dimensions

Length |-----| 81.5 mm



Variants

Order Number	Reference	Holder	Degree of Protection
7082.1110	23351B	●	
7170.0480	23372	●	IP 20

23351B

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

23162



Board · Screw or Rivet · 14.3 x 51 mm



GAM
T1 NNO

Description

- Screw or rivet fastening
- With lock and safety calibration

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

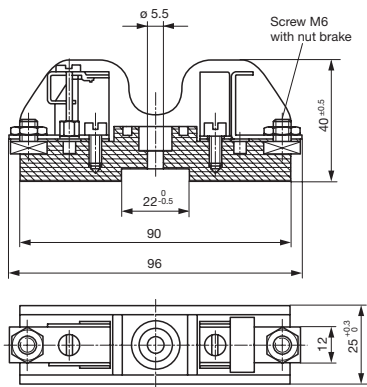
Technical Data

Fuse-Link	14.3 x 51 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Screw Clamp
Rated Voltage	500 VAC
Rated Current	40 A
Rated Power Acceptance	4 W / 40 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 00
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset
Unit Weight (Socket/Cap)	94 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating, HB8

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-619 Phase D

Dimensions

Length | 90 mm



23162

Variants

Order Number	Reference	Holder	Colour Holder
7085.1910	23162	●	Black
7085.2910	23162	●	Grey
7085.3910	23162	●	Red

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

231756R**Board · Screw or Rivet · 14.3 x 51 mm****NNO****Description**

- Screw or rivet fastening
- With lock and safety calibration
- Model following a navy specifications

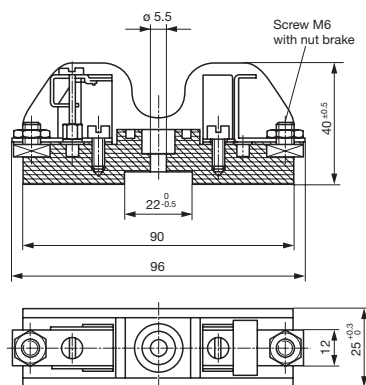
References

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Approvals****Technical Data**

Fuse-Link	14.3 x 51 mm
Mounting	Board
Fastening	Screw or Rivet
Terminals	Screw Clamp
Rated Voltage	380 VAC/DC
Rated Current	50 A
Rated Power Acceptance	5 W / 50 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Degree of Protection	IP 00
Protection Class	Suitable for appliances with protection class I or II acc. to IEC 61140
Admissible Ambient Air Temp.	-5 °C to 70 °C
Climatic Category	5/070/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Red
Unit Weight (Socket/Cap)	102 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Voltage Rating, Current Rating

Soldering Methods	Wave
Resistance to Vibration	acc. to NF C 20-706 / IEC 60068-2-6, test Fc
Shocks	acc. to NF C 20-706 / IEC 60068-2-27
Bumps	acc. to NF C 20-729 / IEC 60068-2-29
Salt Mist	acc. to NF C 20-711 / IEC 60068-2-11
Dump Heat	acc. to NF C 20-604
Climatic Composite	acc. to NF C 20-610 Phase 1-2-3-5

DimensionsLength  96 mm**Variants**

Order Number	Reference	Holder	Colour Holder
7085.4910	231756R	●	Red

231756R

Packaging Unit	Bulk (100 pcs.)
----------------	-----------------

OG (Clip) 5x20



OG Clip 5x20

OG Clip 5x20 variant 2

PCB5 x 20 mm



Description

- Clip-material: bronze or brass
- Optional covers, see accessories

Approvals

- UL File Number: E39328

References

General Product Information see page 383
Accessories see page 357

Weblinks

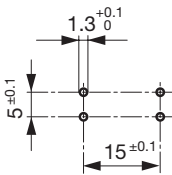
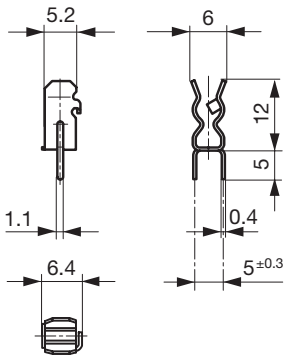
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	6.3 A (UL)
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.55 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

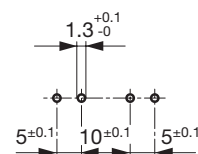
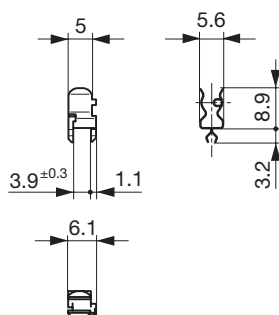
Dimensions



Variants 0751.0052 and 0751.0062

Drilling holes variants 0751.0052 and 0751.0062

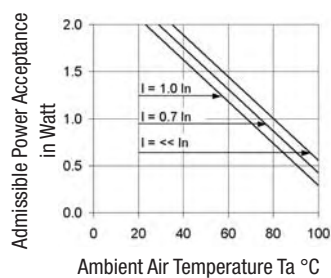
OG (Clip) 5x20



Variants 2 0751.0110 and 0751.0231

Drilling Diagram variants 2 0751.0110 and 0751.0231

Derating Curves

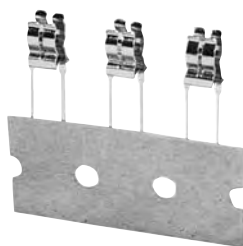


Variants

Order Number	Clip	Terminals	Material
0751.0052	●	Straight	Tin-Plated Bronze
0751.0062	●	Straight	Tin-Plated Brass
0751.0110	●	Kicked	Tin-Plated Brass
0751.0231	●	Kicked	Silver-Plated

Packaging Unit Bulk (1000 pcs.)

CQM



PCB5 x 20 mm



Description

- Through hole mounting

Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

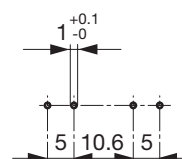
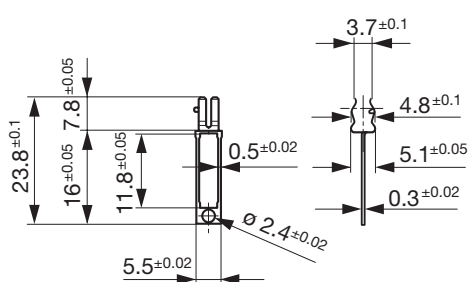
Technical Data

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	7 A
Admissible Ambient Air Temp.	-40 °C to 90 °C
Climatic Category	40/090/21 acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.32 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	none

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 10 mΩ at 20 mV

Dimensions

Length |—————| 26.5 mm



Drilling Diagram

Variants

Order Number	Clip	Terminals	Material
0752.1242	●	Straight	Silver-Plated
0752.1243	●	Straight	Nickel-Plated

Packaging Unit

Bulk (100 pcs.)

231828**PCB5 x 20 mm****Description**

- Through hole mounting

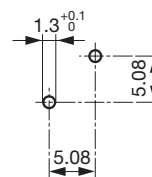
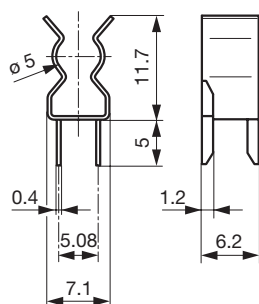
References

General Product Information see page 383

Approvals**Weblinks**Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Climatic Category	// acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	none

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

DimensionsLength  7.1 mm

Drilling holes variant 7141.2001

Variants

Order Number	Reference	Clip	Terminals	Material
7141.2001	231828	●	Straight	Tin-Plated Bronze

Packaging Unit

Bulk (100 pcs.)

231683**PCB5 x 20 mm****Description**

- Through hole mounting

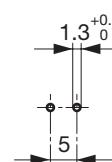
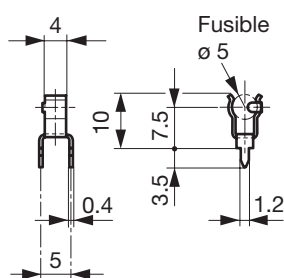
Approvals**References**

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	5 x 20 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Climatic Category	// acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.37 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	none

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

DimensionsLength  5.8 mm**Drilling Diagrams****Variants**

Order Number	Reference	Clip	Terminals	Material
7181.5001	231683	●	Straight	Tin-Plated Bronze

Packaging Unit

Bulk (100 pcs.)

231685**PCB6.3 x 32 mm****Description**

- Through hole mounting

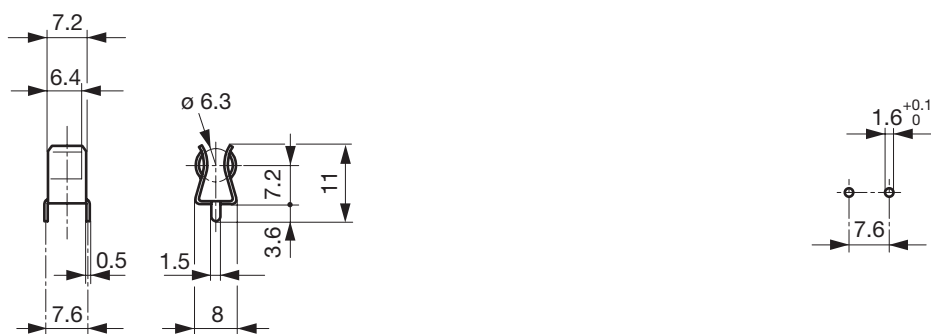
Approvals**References**

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

Fuse-Link	6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Climatic Category	// acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	none

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

DimensionsLength  8 mm**Drilling Diagrams****Variants**

Order Number	Reference	Clip	Terminals	Material
7181.5003	231685	●	Straight	Tin-Plated Bronze

Packaging Unit

Bulk (100 pcs.)

OG (Clip) 5x20 / 6.3x32

Variant 2

PCB 5 x 20 or 6.3 x 32 mm

**Description**

- Through hole mounting
- Clip-material: bronze or brass
- Fuse block accepts 5x20 or 6.3x32 fuse-links

Standards

- IEC 60127-6
- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

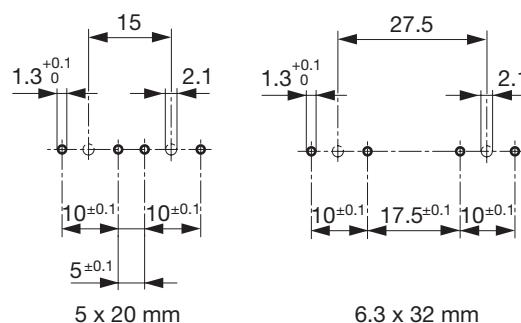
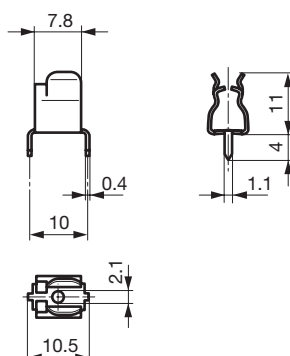
References

General Product Information see page 383

WeblinksApprovals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>**Technical Data**

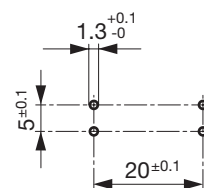
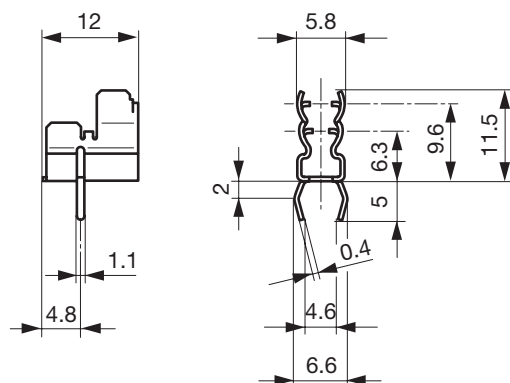
Fuse-Link	5 x 20 or 6.3 x 32 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	10 A (UL)
Rated Power Acceptance	2.5 W / 10 A @ Ta 23 °C Admissible power acceptance at higher ambient temperature see derating curves
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	0.98 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 2.5 mΩ at 20 mV

Dimensions

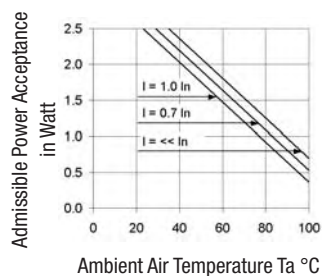
Variant 0751.0056

Drilling holes variant 0751.0056

OG (Clip) 5x20 / 6.3x32

Variant 2 0751.0099, 0751.0100, 0751.0141 and 0751.0142

Drilling diagram variant 2 0751.0099, 0751.0100, 0751.0141 and 0751.0142

Derating Curves**Variants**

Order Number	Clip	Terminals	Material
0751.0056	●	Straight	Tin-Plated Bronze
0751.0099	●	Kicked	Tin-Plated Bronze
0751.0100	●	Kicked	Tin-Plated Brass
0751.0141	●	Straight	Tin-Plated Bronze
0751.0142	●	Straight	Tin-Plated Brass

Packaging Unit Bulk (1000 pcs.)

231660



PCB10.3 x 38 mm



Standards

- UL 512

Approvals

- UL File Number: E41738

References

General Product Information see page 383

Weblinks

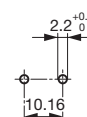
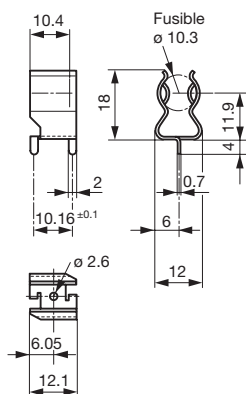
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

Fuse-Link	10.3 x 38 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Climatic Category	// acc. to IEC 60068-1
Material: Terminals	see variants
Unit Weight (Socket/Cap)	4.1 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	 Type, Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length  12 mm

Drilling Diagram

Variants

Order Number	Reference	Clip	Terminals	Material
7170.0470	231660	●	Straight	Tin-Plated Bronze

Packaging Unit

Bulk (100 pcs.)

231787



231787

PCB2 x 7 mm



Description

- Suitable sub-miniature fuse-links 172876 and MSB

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E41738

References

General Product Information see page 383

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

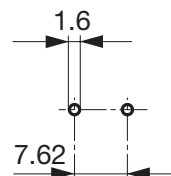
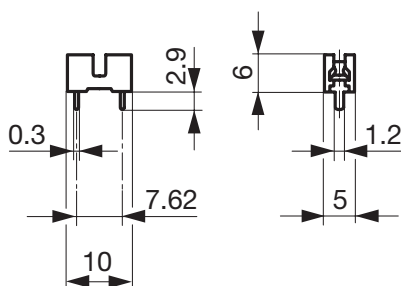
Technical Data

Fuse-Link	2 x 7 mm
Mounting	PCB
Terminals	Solder THT
Rated Voltage	125 VAC/DC
Rated Current	7 A (UL/CSA)
Rated Power Acceptance	0.9 W / 7 A @ Ta 23 °C
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Bronze
Unit Weight (Socket/Cap)	2.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length 10 mm



Variant 7090.9020.xx

Drilling Diagram

Variants

Order Number	Type	Holder	Terminals
7090.9020.xx	231787	●	THT

231787

Packaging Unit	.03 Plastic Bag (100 pcs.)
	.55 Blister Tape (500 pcs.)

231786



231786

PCB2 x 7 mm



Description

- Suitable sub-miniature fuse-links 172876 and MSB

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E41738

References

General Product Information see page 383

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

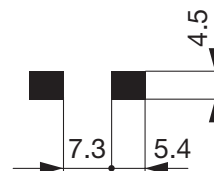
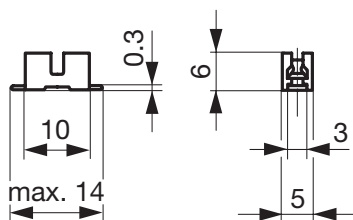
Technical Data

Fuse-Link	2 x 7 mm
Mounting	PCB
Terminals	Solder SMT
Rated Voltage	125 VAC/DC
Rated Current	7 A (UL/CSA)
Rated Power Acceptance	0.9 W / 7 A @ Ta 23 °C
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Tin-Plated Bronze
Unit Weight (Socket/Cap)	2.5 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-20, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Td

Dimensions

Length  14 mm



Variant 7090.9010.xx

Solder pads

Variants

Order Number	Type	Holder	Terminals
7090.9010.xx	231786	●	SMT

231786

Packaging Unit	.03 Plastic Bag (100 pcs.)
	.55 Blister Tape (500 pcs.)

OMH 125



PCBOMx 63/125 Fuse



Description

- Suitable for SMD fuse-links OMF 63/OMF 125/OMT 125

Standards

- UL 512 and CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

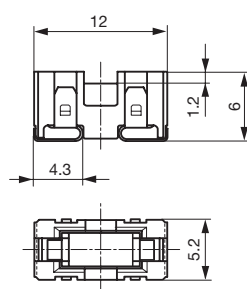
Technical Data

Fuse-Link	OMx 63/125 Fuse
Mounting	PCB
Terminals	Solder SMT
Rated Voltage	125 VAC
Rated Current	5 A (UL/CSA)
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Beige, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	3.9 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Reflow
Solderability	245 °C / 3 sec acc. to IEC 60068-2-20, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Td
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length 12 mm



Variants 0031.7701.xx

Solder pads

Variants

Order Number Holder

0031.7701.xx



Packaging Unit

- .11 Plastic Bag (100 pcs.)
- .22 Blister Tape 33 cm Reel (750 pcs.)
- .23 Blister Tape 33 cm Reel (1500 pcs.)

FMS (125V)



PCB Microfuse 125 V



Description

- Suitable for subminiature fuse-links MSF 125

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

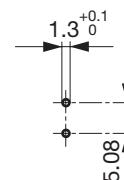
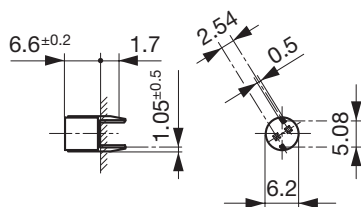
Technical Data

Fuse-Link	Microfuse 125 V
Mounting	PCB
Terminals	Solder THT
Rated Voltage	125 VAC
Rated Current	5 A (UL/CSA)
Degree of Protection	IP 40
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Silver-Plated Brass
Unit Weight (Socket/Cap)	0.37 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length  11.3 mm



Drilling Diagram

Variants

Order Number	Holder
0031.7501	●

Packaging Unit

Plastic Bag (100 pcs.)

FMR



PCB Microfuse 125 V



Description

- Suitable for subminiature fuse-links MSF 125
- Horizontal mount
- Through hole mounting

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

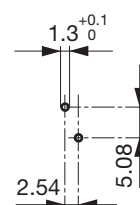
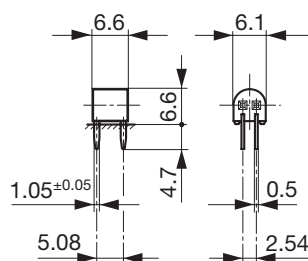
Technical Data

Fuse-Link	Microfuse 125 V
Mounting	PCB
Terminals	Solder THT
Rated Voltage	VAC
Rated Current	5 A (UL/CSA)
Degree of Protection	IP 40
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Black, UL 94V-0
Material: Terminals	Silver-Plated Brass
Unit Weight (Socket/Cap)	0.34 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length 11.3 mm



Variant 0031.7505

Drilling Diagram

Variants

Order Number	Holder
0031.7505	

Packaging Unit

Plastic Bag (100 pcs.)

FME



PCB Microfuse 125 V



Description

- Suitable for subminiature fuse-links MSF 125
- Panel mount, front side

Standards

- UL 512
- CSA C22.2 no. 39

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

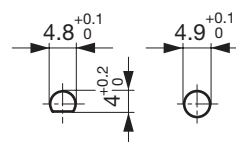
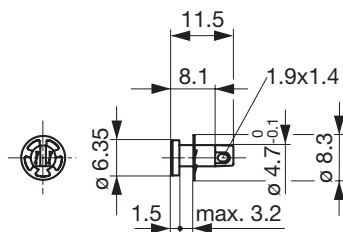
Technical Data

Fuse-Link	Microfuse 125 V
Mounting	PCB
Terminals	Solder
Rated Voltage	VAC
Rated Current	5 A (UL/CSA)
Degree of Protection	IP 40
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoset, Black, UL 94V-0
Material: Terminals	Silver-Plated Brass
Unit Weight (Socket/Cap)	0.3 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Iron
Solderability	350 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 2
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 2
Contact Resistance	< 5 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length 11.5 mm



Variant 0031.7503

Mounting holes

Variants

Order Number	Holder
0031.7503	

Packaging Unit

Plastic Bag (100 pcs.)

FMS (250V)**PCB Microfuse 250 V****Description**

- Suitable for sub-miniature fuse-links MSF 250/MST 250/MSTU 250/MXT 250

Standards

- UL 512
- CSA C22.2 no. 39

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

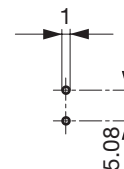
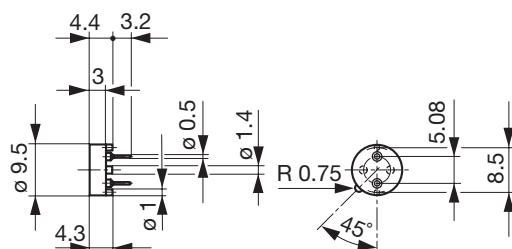
Approvals**Technical Data**

Fuse-Link	Microfuse 250 V
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	6.3 A (UL/CSA)
Degree of Protection	IP 30
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Socket	Thermoplastic, Beige, UL 94V-0
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	0.37 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	Approvals

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Contact Resistance	< 7 mΩ at 20 mV
Dielectric Strength	> 3 kV between L-N (50 Hz; 1 min)
Impulse Withstand Voltage	> 4 kV between L-N
Insulation Resistance	> 10 MΩ between L-N (500 VDC; 1 min)
Overvoltage Category	I - III acc. to IEC 60664-1
Pollution Degree	1 - 3 acc. to IEC 60664-1

Dimensions

Length  7.6 mm

**Drilling Diagram****Variants**

Order Number	Holder
0031.7601	●

Packaging Unit

Plastic box (100 pcs.)

231651



PCBPSC Fuse



Approvals

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

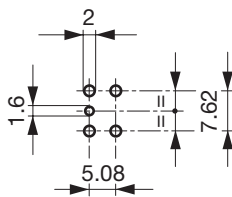
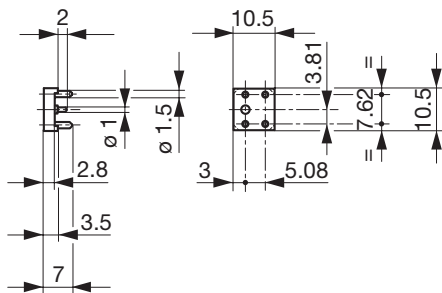
Technical Data

Fuse-Link	PSC Fuse
Mounting	PCB
Terminals	Solder THT
Rated Voltage	VAC
Rated Current	5 A (UL)
Climatic Category	// acc. to IEC 60068-1
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	0.7 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length  10.5 mm



Variant 7149.9017.01

Drilling Diagram

Variants

Order Number	Holder
7149.9017.01	●

Packaging Unit Plastic Bag (100 pcs.)

231819**PCBFRT Fuse****Description**

- Suitable for subminiature fuse-links FRT
- Through hole mounting

Approvals

- UL File Number: E39328

References

General Product Information see page 383

Weblinks

Approvals: <http://www.schurter.com/approvals>

RoHS: <http://www.schurter.com/rohs>

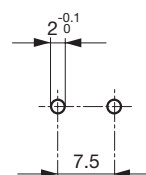
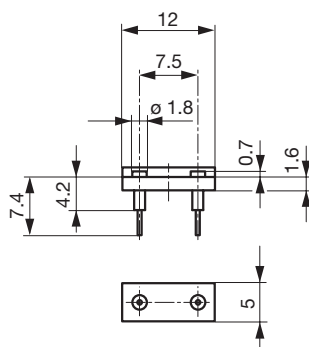
Technical Data

Fuse-Link	FRT Fuse
Mounting	PCB
Terminals	Solder THT
Rated Voltage	250 VAC
Rated Current	6.3 A
Admissible Ambient Air Temp.	-40 °C to 85 °C
Climatic Category	40/085/21 acc. to IEC 60068-1
Material: Terminals	Tin-Plated Copper Alloy
Unit Weight (Socket/Cap)	0.4 g
Stock Conditions	0 °C to 60 °C, max. 70% r.h.

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-20, Test Tb, method 1A

Dimensions

Length  12 mm

**Drilling Diagram****Variants**

Order Number	Holder
7149.9019.03	●

Packaging Unit

Plastic Bag (100 pcs.)

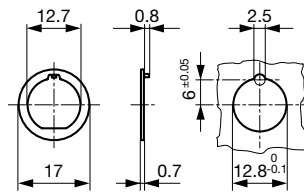
ACCESSORIES

FUSEHOLDERS



Anti-Rotation Washer for
Fuseholders for Round Mounting
Holes

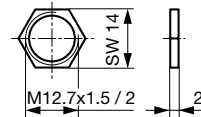
Order No. _____
0696.0033 *



0583.0007

Metal Nut

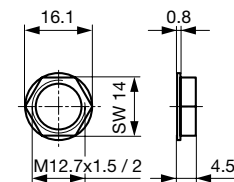
Order No. _____
0098.0026 *



0583.0016

Plastic-Nut
(max. Torque 1.2 Nm)

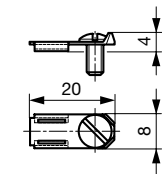
Order No. _____
0098.0093



straight

Screw-Adapter for Quick
Connect-Terminals 6.3 x 0.8 mm

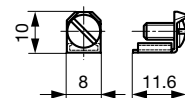
Order No. _____
0750.0141 *



angled

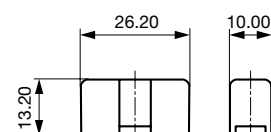
Screw-Adapter for Quick
Connect-Terminals 6.3 x 0.8 mm

Order No. _____
0750.0142 *



Cover for
Fuseholders
OG 0751.0052/62,
UHB 0031.5101, OG 0031.8001,
UH 0031.5001, 0031.5010

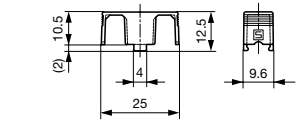
Order No. _____
0853.9561 * 1,6 W
0853.9562 * 2,5 W



Transparent
Cover
0853.0551

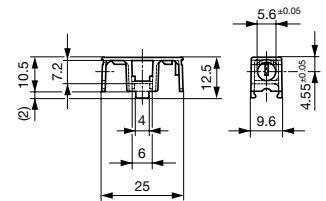
Reflow-
Cover
0853.0571

Order No. _____
0853.0551 * / 0853.0571 *



Reflow-Cover
with Clamp
0853.0576

Order No. _____
0853.0576 *



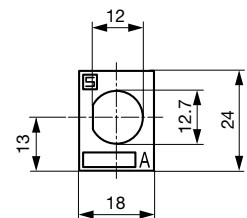
Order No. _____
0853.0917 *

Reflow Cover



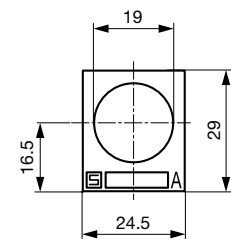
Marking Plate
Self-Adhesive

Order No. _____
0880.0001 *



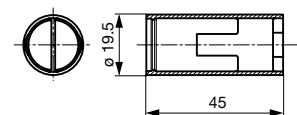
Marking Plate
Self-Adhesive

Order No. _____
0880.0002 *

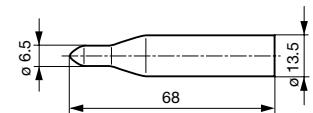


Insulating Covers

a) For Fuseholder Types FIZ/FUL



b) For Fuseholders with a Socket
Diameter of 13 mm



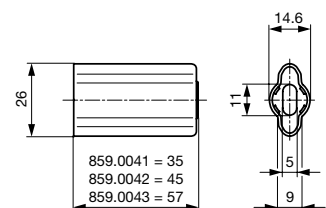
Order No. _____

a) 0859.0046 *
b) 0859.0080 *



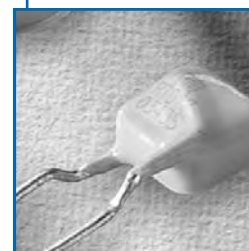
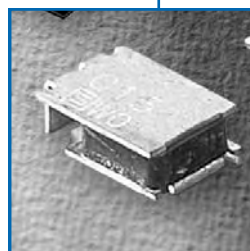
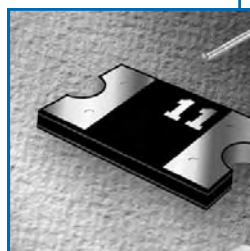
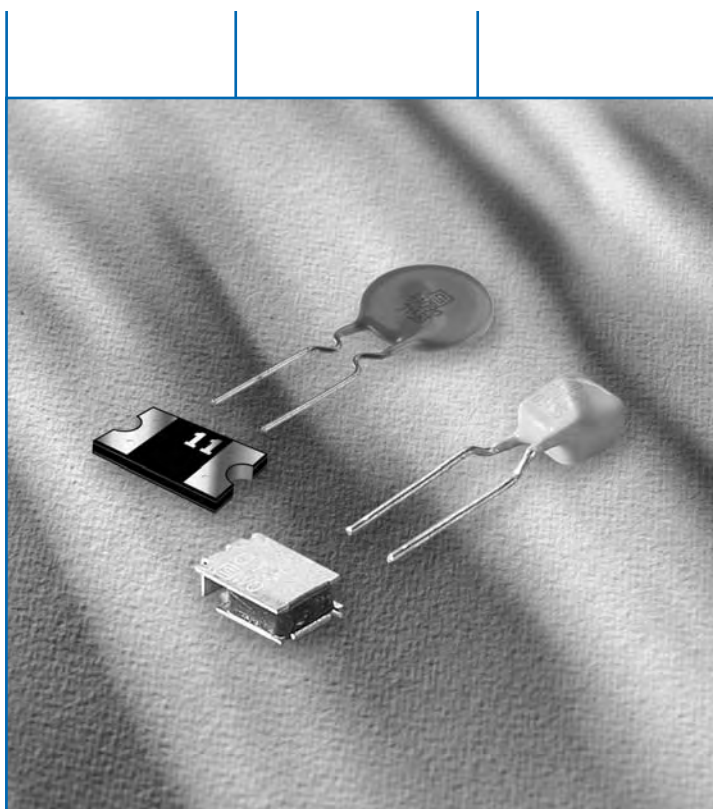
Insulating Cover for
Fuseholders FEU

Order No. _____
0859.0041 for FEU 0031.1653 *
0859.0042 for FEU 0031.1673 *
0031.1681 *
0859.0043 for FEU 0031.1694 *



* Packaging Unit 100 Pcs.

RESETTABLE FUSES



SELECTOR CHART

PTC FUSES



Style	Surface Mount PTC Fuse	Surface Mount PTC Fuse	Surface Mount PTC Fuse	Surface Mount PTC Fuse
Dimensions	3.2 x 1.6 mm	4.6 x 3.2 mm	5.1 x 4.6 mm	
Product picture				
Type	PFNF	PFMF	PFDF	PFSM
V max [VDC]	6.0 - 30.0 VDC	13.2 - 60.0 VDC	60.0 VDC	6.0 - 60.0 VDC
I max [A]	10 - 100 A	10 - 100 A	10 A	40 - 100 A
I hold [A]	0.12 - 1.5 A	0.1 - 0.75 A	0.55 A	0.3 - 2.6 A
Comment	1206 footprint	1812 footprint	2018 footprint	2029 and 3425 footprint
Operating Temperature	-40 °C to 85 °C	-40 °C to 85 °C	-40 °C to 85 °C	-40 °C to 85 °C
Approvals				
Catalogue page	xxx	xxx	xxx	xxx

Style	Surface Mount PTC Fuse	Radial leaded PTC fuse	Radial leaded PTC fuse
Dimensions			
Product picture			
Type	PFHT	PFRA	PFRX
V max [VDC]	16.0 VDC	16.0 - 60.0 VDC	60.0 VDC
I max [A]	100 A	40 - 100 A	40 A
I hold [A]	1.36 - 1.6 A	0.05 - 11 A	1.1 - 3.75 A
Comment	2029 and 3425 footprint		
Operating Temperature	-40 °C to 125 °C	-40 °C to 85 °C	-40 °C to 85 °C
Approvals			
Catalogue page	xxx	xxx	xxx

PFNF



1206 footprint · 6.0 - 30.0 VDC · 0.12 - 1.5 A



Approvals

- UL File Number: E172175

Applications

- USB port protection
- PC motherboards
- PDA's / Digital Cameras
- Game console port protection

References

General Product Information see page 383
Time-Current Curves see page 377
Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

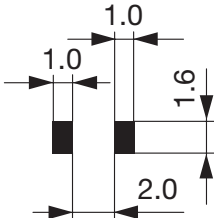
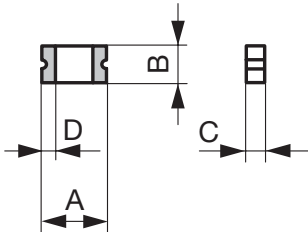
Technical Data

V max [VDC]	6.0 - 30.0 VDC
I max [A]	10 - 100 A
I hold [A]	0.12 - 1.5 A
Fastening	PCB,SMT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immerion Gold
Weight	0.006 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

Length  3.2 mm



Solder pads

PFNF**Dimensions**

Order Number	A min [mm]	A max [mm]	B min [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]
PFNF.012.2	3	3.4	1.4	1.8	0.7	1.1	0.25
PFNF.020.2	3	3.4	1.4	1.8	0.48	0.85	0.25
PFNF.035.2	3	3.4	1.4	1.8	0.48	0.85	0.25
PFNF.050.2	3	3.4	1.4	1.8	0.48	0.85	0.25
PFNF.075.2	3	3.4	1.4	1.8	0.4	0.7	0.25
PFNF.110.2	3	3.4	1.4	1.8	0.4	0.7	0.25
PFNF.150.2	3	3.4	1.4	1.8	0.4	0.7	0.25

Thermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFNF.012.2	0.19	0.17	0.15	0.12 / 0.29	0.11	0.1	0.09	0.08	0.07
PFNF.020.2	0.3	0.27	0.24	0.2 / 0.46	0.18	0.16	0.14	0.12	0.11
PFNF.035.2	0.51	0.46	0.4	0.35 / 0.75	0.3	0.27	0.24	0.22	0.18
PFNF.050.2	0.76	0.68	0.59	0.5 / 1	0.44	0.4	0.35	0.32	0.26
PFNF.075.2	1.11	1	0.85	0.75 / 1.5	0.67	0.61	0.52	0.5	0.42
PFNF.110.2	1.64	1.46	1.3	1.1 / 1.8	0.92	0.83	0.8	0.65	0.52
PFNF.150.2	2.2	1.99	1.77	1.5 / 3	1.34	1.23	1.1	1.01	0.84

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R 1 hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFNF.012.2	30.0	10	0.12	0.29	1.35	6	1	0.2	0.40
PFNF.020.2	24.0	10	0.2	0.46	0.6	2.6	1	0.6	0.60
PFNF.035.2	6.0	100	0.35	0.75	0.3	1.2	8	0.1	0.60
PFNF.050.2	13.2	100	0.5	1	0.15	0.7	8	0.1	0.40
PFNF.075.2	6.0	100	0.75	1.5	0.1	0.4	8	0.1	0.40
PFNF.110.2	6.0	100	1.1	1.8	0.06	0.2	8	0.1	0.60
PFNF.150.2	6.0	100	1.5	3	0.03	0.13	8	0.3	0.60

Packaging Unit

Blister Tape 18 cm Reel (3000 pcs.)

PFMF



1812 footprint · 13.2 - 60.0 VDC · 0.1 - 0.75 A



Description

- 100% compatible with the PFMD type

Approvals

- UL File Number: E172175

Applications

- Hard disk drives
- PC motherboards
- PC peripherals
- PCMCIA cards
- USB port protection

References

General Product Information see page 383

Time-Current Curves see page 377

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>

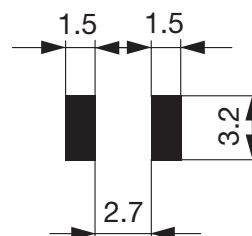
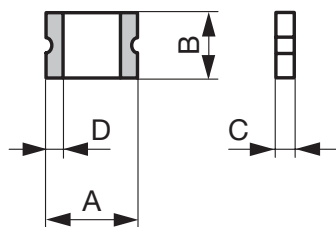
RoHS: <http://www.schurter.com/rohs>

Technical Data

V max [VDC]	13.2 - 60.0 VDC
I max [A]	10 - 100 A
I hold [A]	0.1 - 0.75 A
Fastening	PCB,SMT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Weight	0.01 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

Length  4.6 mm

Solder pads

PFMF**Dimensions**

Order Number	A min [mm]	A max [mm]	B min [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]
PFMF.010.2	4.37	4.73	3.07	3.41	0.7	1.1	0.3
PFMF.014.2	4.37	4.73	3.07	3.41	0.7	1.1	0.3
PFMF.020.2	4.37	4.73	3.07	3.41	0.7	1.1	0.3
PFMF.030.2	4.37	4.73	3.07	3.41	0.7	1.1	0.3
PFMF.050.2	4.37	4.73	3.07	3.41	0.55	0.85	0.3
PFMF.075.2	4.37	4.73	3.07	3.41	0.55	0.85	0.3

Thermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFMF.010.2	0.16 / 0.32	0.14 / 0.28	0.12 / 0.24	0.1 / 0.3	0.08 / 0.16	0.07 / 0.14	0.06 / 0.12	0.05 / 0.1	0.03 / 0.06
PFMF.014.2	0.23 / 0.52	0.19 / 0.45	0.17 / 0.4	0.14 / 0.34	0.12 / 0.29	0.1 / 0.25	0.09 / 0.23	0.08 / 0.21	0.06 / 0.16
PFMF.020.2	0.29 / 0.58	0.26 / 0.52	0.23 / 0.46	0.2 / 0.4	0.17 / 0.34	0.15 / 0.3	0.14 / 0.28	0.12 / 0.24	0.1 / 0.2
PFMF.030.2	0.44 / 0.88	0.39 / 0.78	0.35 / 0.7	0.3 / 0.6	0.26 / 0.52	0.23 / 0.46	0.21 / 0.42	0.18 / 0.36	0.15 / 0.3
PFMF.050.2	0.77 / 1.54	0.68 / 1.36	0.59 / 1.18	0.5 / 1	0.44 / 0.88	0.4 / 0.8	0.37 / 0.74	0.33 / 0.66	0.29 / 0.58
PFMF.075.2	1.15 / 2.3	1.01 / 2.02	0.88 / 1.76	0.75 / 1.5	0.65 / 1.3	0.6 / 1.2	0.55 / 1.1	0.49 / 0.98	0.43 / 0.86

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFMF.010.2	60.0	40	0.1	0.3	0.7	15	0.5	1.5	0.80
PFMF.014.2	60.0	40	0.14	0.34	0.4	6.5	1.5	0.15	0.80
PFMF.020.2	30.0	80	0.2	0.4	0.4	6	6	0.06	0.80
PFMF.030.2	30.0	10	0.3	0.6	0.3	3	8	0.1	0.80
PFMF.050.2	15.0	100	0.5	1	0.15	1	8	0.15	0.80
PFMF.075.2	13.2	100	0.75	1.5	0.11	0.45	8	0.2	0.80

Packaging Unit

PFMF.010.2 - PFMF.030.2 Blister Tape 18 cm Reel (1500 pcs.)
 PFMF.050.2 + PFMF.075.2 Blister Tape 18 cm Reel (2000 pcs.)

PFDf



2018 footprint · 60.0 VDC · 0.55 A



Approvals

- UL File Number: E172175

Applications

- Power Over Ethernet (IEEE 802.3 af) port protection
- Automotive electronic control module protection
- Telecom equipment low voltage protection

References

General Product Information see page 383

Time-Current Curves see page 377

Packaging Details see page 379

Weblinks

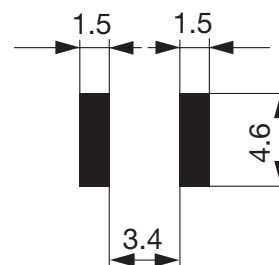
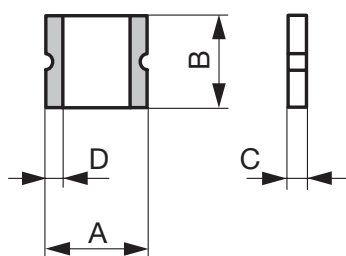
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

V max [VDC]	60.0 VDC
I max [A]	10 A
I hold [A]	0.55 A
Fastening	PCB,SMT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Weight	0.05 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

Length  5.1 mm

Solder pads

Dimensions

Order Number	A min [mm]	A max [mm]	B min [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]
PFDf.050.2	4.72	5.44	4.22	4.93	0.79	1.09	0.3

PFDFThermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFDF.050.2	0.86 / 1.72	0.77 / 1.54	0.7 / 1.4	0.55 / 1.2	0.48 / 0.96	0.43 / 0.86	0.38 / 0.76	0.36 / 0.72	0.26 / 0.52

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFDF.050.2	60.0	10	0.55	1.2	0.2	0.09	2.5	3	1.00

Packaging Unit Blister Tape 36 cm Reel (3000 pcs.)

PFSM



2029 and 3425 footprint · 6.0 - 60.0 VDC · 0.3 -



Approvals

- UL File Number: E172175

Applications

- Computer & peripherals
- General electronics
- Automotive applications

References

General Product Information see page 383

Time-Current Curves see page 378

Packaging Details see page 379

Weblinks

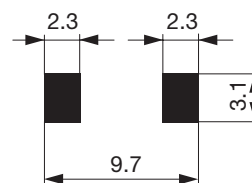
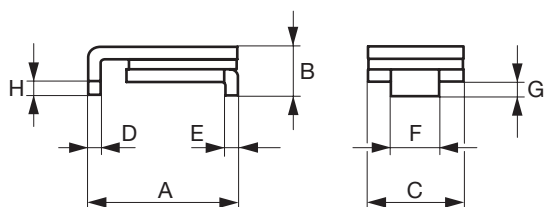
Approvals: <http://www.schurter.com/approvals>RoHS: <http://www.schurter.com/rohs>

Technical Data

V max [VDC]	6.0 - 60.0 VDC
I max [A]	40 - 100 A
I hold [A]	0.3 - 2.6 A
Fastening	PCB,SMT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	Tin-Plated Brass
Weight	2 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.

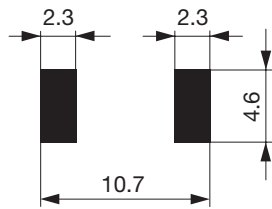
Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 7 Days -> +/- 5% Typical Resistance Change
Thermal Shock	MIL-STD-202F, Method 107G (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A

Dimensions



Solder pads PFSM.030.2 - PFSM.125.2 and PFSM.260.2

PFSM



Solder pads PFSM.150.2 and PFSM.200.2

Dimensions

Order Number	A min [mm]	A max [mm]	B max [mm]	C max [mm]	D min [mm]	D max [mm]	E min [mm]	E max [mm]	F min [mm]	F max [mm]	G min [mm]	G max [mm]	H min [mm]
PFSM.030.2	6.73	7.98	3.18	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFSM.050.2	6.73	7.98	3.18	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFSM.075.2	6.73	7.98	3.18	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFSM.100.2	6.73	7.98	3	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFSM.125.2	6.73	7.98	3	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFSM.150.2	8	9.5	3	6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43
PFSM.200.2	8	9.5	3	6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43
PFSM.250.2	8	9.5	3	6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43
PFSM.260.2	6.73	7.98	3	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43

Thermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFSM.030.2	0.45 / 0.9	0.4 / 0.8	0.35 / 0.7	0.3 / 0.6	0.25 / 0.5	0.23 / 0.46	0.2 / 0.4	0.17 / 0.34	0.14 / 0.28
PFSM.050.2	0.76 / 1.52	0.67 / 1.34	0.59 / 1.18	0.5 / 1	0.42 / 0.84	0.38 / 0.76	0.33 / 0.66	0.29 / 0.58	0.23 / 0.46
PFSM.075.2	1.13 / 2.26	1.01 / 2.02	0.88 / 1.76	0.75 / 1.5	0.62 / 1.24	0.56 / 1.12	0.5 / 1	0.44 / 0.88	0.34 / 0.68
PFSM.100.2	1.66 / 3.32	1.47 / 2.94	1.29 / 2.58	1.1 / 2.2	0.91 / 1.82	0.83 / 1.66	0.73 / 1.46	0.64 / 1.28	0.5 / 1
PFSM.125.2	1.89 / 3.78	1.68 / 3.36	1.46 / 2.92	1.25 / 2.5	1.04 / 2.08	0.94 / 1.88	0.83 / 1.66	0.73 / 1.46	0.56 / 1.12
PFSM.150.2	2.27 / 4.54	2.01 / 4.02	1.76 / 3.52	1.5 / 3	1.25 / 2.5	1.13 / 2.26	0.99 / 1.98	0.87 / 1.74	0.68 / 1.36
PFSM.200.2	3.02 / 6.04	2.68 / 5.36	2.34 / 4.68	2 / 4	1.66 / 3.32	1.5 / 3	1.32 / 2.64	1.16 / 2.32	0.9 / 1.8
PFSM.250.2	3.78 / 7.56	3.35 / 6.7	2.93 / 5.86	2.5 / 5	2.08 / 4.16	1.88 / 3.76	1.65 / 3.3	1.45 / 2.9	1.13 / 2.26
PFSM.260.2	3.64 / 7.28	3.25 / 6.5	2.91 / 5.82	2.6 / 5.2	2.26 / 4.52	2.08 / 4.16	1.95 / 3.9	1.74 / 3.48	1.48 / 2.96

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFSM.030.2	60.0	40	0.3	0.6	0.9	4.8	1.5	3	1.70
PFSM.050.2	60.0	40	0.5	1	0.35	1.4	2.5	4	1.70
PFSM.075.2	30.0	80	0.75	1.5	0.23	1	8	0.3	1.70
PFSM.100.2	30.0	80	1.1	2.2	0.12	0.48	8	0.5	1.70
PFSM.125.2	15.0	100	1.25	2.5	0.07	0.25	8	2	1.70
PFSM.150.2	15.0	100	1.5	3	0.06	0.25	8	5	1.90
PFSM.200.2	15.0	100	2	4	0.045	0.125	8	12	1.90
PFSM.250.2	15.0	100	2.5	5	0.024	0.085	8	25	1.90
PFSM.260.2	6.0	100	2.6	5.2	0.025	0.075	8	20	1.70

PFSM

Packaging Unit	PFSM.030.2 - PFSM.125.2 Blister Tape 36 cm Reel (2000 pcs.)
	PFSM.150.2 - PFSM.250.2 Blister Tape 36 cm Reel (1500 pcs.)
	PFSM.260.2 Blister Tape 36 cm Reel (2000 pcs.)

PFHT



2029 and 3425 footprint · 16.0 VDC · 1.36 - 1.6



Description

- Operating temperature range up to 125 °C

Approvals

Applications

- Overcurrent protection at operating temperature over 85 °C

References

General Product Information see page 383

Time-Current Curves see page 377

Packaging Details see page 379

Weblinks

Approvals: <http://www.schurter.com/approvals>

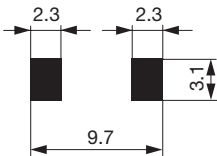
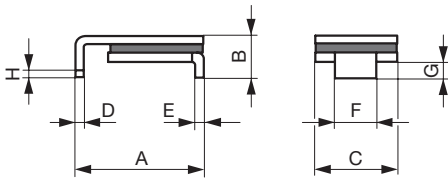
RoHS: <http://www.schurter.com/rohs>

Technical Data

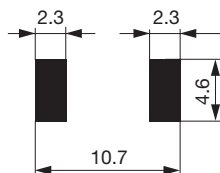
V max [VDC]	16.0 VDC
I max [A]	100 A
I hold [A]	1.36 - 1.6 A
Fastening	PCB,SMT
Allowable operation temp.	-40 °C to 125 °C
Material: Terminals	Tin-Plated Brass
Weight	1 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold

Soldering Methods	Reflow
Solderability	215 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+125 °C, 1000 Hours -> +/- 15% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 7 Days -> +/- 15% Typical Resistance Change
Thermal Shock	MIL-STD-202F, Method 107G (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A

Dimensions



Solder pads PFHT.136.2

PFHT

Solder pads PFHT.160.2

Dimensions

Order Number	A min [mm]	A max [mm]	B max [mm]	C max [mm]	D min [mm]	D max [mm]	E min [mm]	E max [mm]	F min [mm]	F max [mm]	G min [mm]	G max [mm]	H min [mm]
PFHT.136.2	6.73	7.98	3	5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43
PFHT.160.2	8	9.5	3	6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43

Thermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	125 °C
PFHT.136.2	1.91 / 3.82	1.72 / 3.44	1.54 / 3.08	1.36 / 2.72	1.18 / 2.36	1.09 / 2.18	1 / 2	0.91 / 1.82	0.77 / 1.54	0.4 / 0.8
PFHT.160.2	2.15 / 4.3	1.96 / 3.92	1.78 / 3.56	1.6 / 3.2	1.42 / 2.84	1.33 / 2.66	1.24 / 2.48	1.15 / 3.3	1.02 / 2.04	0.64 / 1.28

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R 1 hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFHT.136.2	16.0	100	1.36	2.72	0.104	0.3	8	10	2.10
PFHT.160.2	16.0	100	1.6	3.2	0.05	0.15	8	10	2.10

Packaging Unit

PFHT.136.2 Blister Tape 36 cm Reel (2000 pcs.)
 PFHT.160.2 Blister Tape 36 cm Reel (1500 pcs.)

PFRA



16.0 - 60.0 VDC · 0.05 - 11 A



Approvals
- UL File Number: E172175

- Applications**
- Computer & peripherals
 - General electronics
 - Automotive applications

References
General Product Information see page 383
Time-Current Curves see page 378
Packaging Details see page 379

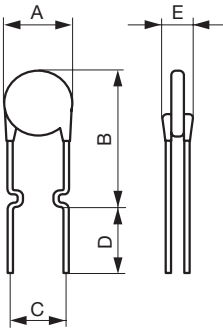
Weblinks
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

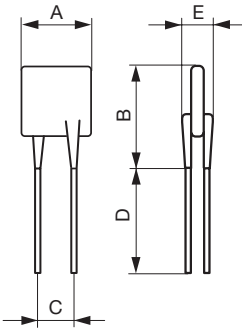
V max [VDC]	16.0 - 60.0 VDC
I max [A]	40 - 100 A
I hold [A]	0.05 - 11 A
Fastening	PCB,THT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	see variants
Weight	60 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	 Type, Current Rating

Soldering Methods	Wave
Solderability	235 °C / 2 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	MIL-STD-202F, Method 107G (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215
Flammability	UL 94V-0

Dimensions

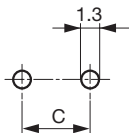


PFRA.010 - PFRA.185



PRFA.250 - PFRA.1100

PFRA



Drilling holes

Dimensions

Order Number	A max [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]	E max [mm]	Ø Lead [mm]	Terminals
PFRA.010	7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Pated NiCu
PFRA.017	7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe
PFRA.020	7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe
PFRA.025	7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe
PFRA.030	7.4	13.4	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe
PFRA.040	7.4	13.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe
PFRA.050	7.9	13.7	4.4	5.8	7.6	3.1	0.51	see variants
PFRA.065	9.7	15.2	4.4	5.8	7.6	3.1	0.51	see variants
PFRA.075	10.4	16	4.4	5.8	7.6	3.1	0.51	see variants
PFRA.090	11.7	16.7	4.4	5.8	7.6	3.1	0.51	see variants
PFRA.110	8.9	14	4.4	5.8	7.6	3	0.51	see variants
PFRA.135	8.9	18.9	4.4	5.8	7.6	3	0.51	see variants
PFRA.160	10.2	16.8	4.4	5.8	7.6	3	0.51	see variants
PFRA.185	12	18.4	4.4	5.8	7.6	3	0.51	see variants
PFRA.250	12	18.3	4.4	5.8	7.6	3	0.81	see variants
PFRA.300	12	18.3	4.4	5.8	7.6	3	0.81	see variants
PFRA.400	14.4	24.8	4.4	5.8	7.6	3	0.81	see variants
PFRA.500	17.4	24.9	9.5	10.9	7.6	3	0.81	see variants
PFRA.600	19.3	31.9	9.5	10.9	7.6	3	0.81	see variants
PFRA.700	22.1	29.8	9.5	10.9	7.6	3	0.81	see variants
PFRA.800	24.2	32.9	9.5	10.9	7.6	3	0.81	see variants
PFRA.900	24.2	32.9	9.5	10.9	7.6	3	0.81	see variants
PFRA.1100	24.2	32.9	9.5	10.9	7.6	3	0.81	see variants

PFRAThermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFRA.010	0.16 / 0.32	0.14 / 0.28	0.12 / 0.24	0.1 / 0.2	0.08 / 0.16	0.07 / 0.14	0.06 / 0.12	0.05 / 0.1	0.04 / 0.08
PFRA.017	0.26 / 0.52	0.23 / 0.46	0.2 / 0.4	0.17 / 0.34	0.14 / 0.28	0.12 / 0.24	0.11 / 0.22	0.09 / 0.18	0.07 / 0.14
PFRA.020	0.31 / 0.62	0.27 / 0.54	0.24 / 0.48	0.2 / 0.4	0.16 / 0.32	0.14 / 0.28	0.13 / 0.26	0.11 / 0.22	0.08 / 0.16
PFRA.025	0.39 / 0.78	0.34 / 0.68	0.3 / 0.6	0.25 / 0.5	0.2 / 0.4	0.18 / 0.36	0.16 / 0.32	0.14 / 0.28	0.1 / 0.2
PFRA.030	0.47 / 0.94	0.41 / 0.82	0.36 / 0.72	0.3 / 0.6	0.24 / 0.48	0.22 / 0.44	0.19 / 0.38	0.16 / 0.32	0.12 / 0.24
PFRA.040	0.62 / 1.24	0.54 / 1.08	0.48 / 0.96	0.4 / 0.8	0.32 / 0.64	0.29 / 0.58	0.25 / 0.5	0.22 / 0.44	0.16 / 0.32
PFRA.050	0.78 / 1.56	0.68 / 1.36	0.6 / 1.2	0.5 / 1	0.41 / 0.82	0.36 / 0.72	0.32 / 0.64	0.27 / 0.54	0.2 / 0.4
PFRA.065	1.01 / 2.02	0.88 / 1.76	0.77 / 1.54	0.65 / 1.3	0.53 / 1.06	0.47 / 0.94	0.41 / 0.82	0.35 / 0.7	0.26 / 0.52
PFRA.075	1.16 / 2.32	1.02 / 2.04	0.89 / 1.78	0.75 / 1.5	0.61 / 1.22	0.54 / 1.08	0.47 / 0.94	0.41 / 0.82	0.3 / 0.6
PFRA.090	1.4 / 2.8	1.22 / 2.44	1.07 / 2.14	0.9 / 1.8	0.73 / 1.46	0.65 / 1.3	0.57 / 1.14	0.49 / 0.98	0.36 / 0.72
PFRA.110	1.6 / 3.2	1.43 / 2.86	1.27 / 2.54	1.2 / 2.2	0.91 / 1.82	0.85 / 1.7	0.75 / 1.5	0.67 / 1.34	0.57 / 1.14
PFRA.135	1.96 / 3.92	1.76 / 3.52	1.55 / 3.1	1.35 / 2.7	1.12 / 2.24	1.04 / 2.08	0.92 / 1.84	0.82 / 1.64	0.7 / 1.4
PFRA.160	2.32 / 4.64	2.08 / 4.16	1.84 / 3.68	1.6 / 3.2	1.33 / 2.66	1.32 / 2.46	1.09 / 2.18	0.98 / 1.96	0.83 / 1.66
PFRA.185	2.68 / 5.36	2.41 / 4.82	2.13 / 4.26	1.85 / 3.7	1.54 / 3.08	1.42 / 2.84	1.26 / 2.52	1.13 / 2.26	0.96 / 1.92
PFRA.250	3.63 / 7.26	3.25 / 6.5	2.88 / 5.76	2.5 / 5	2.08 / 4.16	1.93 / 3.86	1.7 / 3.4	1.53 / 3.06	1.3 / 2.6
PFRA.300	4.35 / 8.7	3.9 / 7.8	3.45 / 6.9	3 / 6	2.49 / 4.98	2.31 / 4.62	2.04 / 4.08	1.83 / 3.66	1.56 / 3.12
PFRA.400	5.8 / 11.6	5.2 / 10.4	4.6 / 9.2	4 / 8	3.32 / 6.64	3.08 / 6.16	2.72 / 5.44	2.44 / 4.88	2.08 / 4.16
PFRA.500	7.25 / 14.5	6.5 / 13	5.75 / 11.5	5 / 10	4.15 / 8.3	3.85 / 7.7	3.4 / 6.8	3.05 / 6.1	2.6 / 5.2
PFRA.600	8.7 / 17.4	7.8 / 15.6	6.9 / 13.8	6 / 12	4.98 / 9.96	4.62 / 9.24	4.08 / 8.16	3.66 / 7.32	3.12 / 6.24
PFRA.700	10.1 / 20.3	9.1 / 18.2	8.05 / 16.1	7 / 14	5.81 / 11.6	5.39 / 10.7	4.76 / 9.52	4.27 / 9.44	3.64 / 7.28
PFRA.800	11.6 / 23.2	10.4 / 20.8	9.2 / 18.4	8 / 16	6.64 / 13.2	6.16 / 12.3	5.44 / 10.8	4.88 / 9.76	4.16 / 8.32
PFRA.900	13 / 26.1	11.7 / 23.4	10.3 / 20.7	9 / 18	7.47 / 14.9	6.93 / 12.7	6.12 / 12.2	5.49 / 10.9	4.68 / 9.36
PFRA.1100	16.1 / 32	14.6 / 29.2	13.1 / 26.2	11 / 22	9.4 / 18.4	8.8 / 17.6	7.8 / 15.6	6.9 / 13.8	5.2 / 10.4

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R initial max [mΩ]	R 1hour max [Ω]	Max Time to trip [s]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFRA.010	60.0	40	0.1	0.2	2.5	4.5	7.5	0.5	4	0.38
PFRA.017	60.0	40	0.17	0.34	2	3.2	8	0.85	3	0.48
PFRA.020	60.0	40	0.2	0.4	1.5	2.84	4.4	1	2.2	0.40
PFRA.025	60.0	40	0.25	0.5	1	1.95	3	1.25	2.5	0.45
PFRA.030	60.0	40	0.3	0.6	0.76	1.36	2.1	1.5	3	0.50
PFRA.040	60.0	40	0.4	0.8	0.52	0.86	1.29	2	3.8	0.55
PFRA.050	60.0	40	0.5	1	0.41	0.77	1.17	2.5	4	0.75
PFRA.065	60.0	40	0.65	1.3	0.27	0.48	0.72	3.25	5.3	0.90
PFRA.075	60.0	40	0.75	1.5	0.18	0.4	0.6	3.75	6.3	0.90
PFRA.090	60.0	40	0.9	1.8	0.14	0.31	0.47	4.5	7.2	1.00
PFRA.110	30.0	40		2.2	0.1	0.18	0.27	5.5	6.6	0.70
PFRA.135	30.0	40	1.35	2.7	0.065	0.115	0.17	6.75	7.3	0.80
PFRA.160	30.0	40	1.6	3.2	0.055	0.105	0.15	8	8	0.90
PFRA.185	30.0	40	1.85	3.7	0.04	0.07	0.11	9.25	8.7	1.00
PFRA.250	30.0	40	2.5	5	0.025	0.048	0.07	12.5	10.3	1.20
PFRA.300	30.0	40	3	6	0.02	0.05	0.08	15	10.8	2.00
PFRA.400	30.0	40	4	8	0.01	0.03	0.05	20	12.7	2.50
PFRA.500	30.0	40	5	10	0.01	0.03	0.05	25	14.5	3.00
PFRA.600	30.0	40	6	12	0.005	0.02	0.04	30	16	3.50
PFRA.700	30.0	40	7	14	0.005	0.02	0.03	35	17.5	3.80
PFRA.800	30.0	40	8	16	0.005	0.02	0.03	40	18.8	4.00
PFRA.900	30.0	40	9	18	0.005	0.01	0.02	45	20	4.20
PFRA.1100	16.0	100	11	22	0.003	0.01	0.01	40	20	4.50

PFRA

Packaging Unit	PFRA.xxxx Bulk (500 pcs.)
	PFRA.010.2 - PFRA.160.2 Taped 34 cm Reel (3000 pcs.)
	PFRA.185.2 - PFRA.400.2 Taped 34 cm Reel (1500 pcs.)

PFRX



60.0 VDC · 1.1 - 3.75 A



Approvals
- UL File Number: E172175

Applications
- Security and fire alarm systems
- Loud speakers
- Power transformers

References
General Product Information see page 383
Time-Current Curves see page 378
Packaging Details see page 379

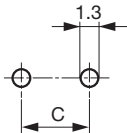
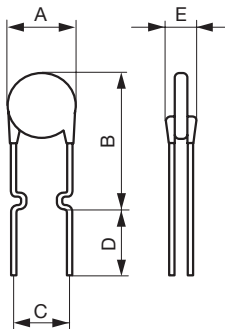
Weblinks
Approvals: <http://www.schurter.com/approvals>
RoHS: <http://www.schurter.com/rohs>

Technical Data

V max [VDC]	60.0 VDC
I max [A]	40 A
I hold [A]	1.1 - 3.75 A
Fastening	PCB,THT
Allowable operation temp.	-40 °C to 85 °C
Material: Terminals	Tin-Plated Copper
Weight	2 g
Stock Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	 type, I hold

Soldering Methods	Wave
Solderability	235 °C / 2 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	MIL-STD-202F, Method 107G (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215
Flammability	UL 94V-0

Dimensions



PFRX**Dimensions**

Order Number	A max [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]	E max [mm]	Ø Lead [mm]
PFRX.110	13	18	4.4	5.1	7.6	3.1	0.81
PFRX.135	14.5	19.6	4.4	5.1	7.6	3.1	0.81
PFRX.160	16.3	21.3	4.4	5.1	7.6	3.1	0.81
PFRX.185	17.8	22.9	4.4	5.1	7.6	3.1	0.81
PFRX.250	21.3	26.4	9.5	10.2	7.6	3.1	0.81
PFRX.300	24.9	30	9.5	10.2	7.6	3.1	0.81
PFRX.375	28.4	33.5	9.5	10.2	7.6	3.1	0.81

Thermal Derating Chart I_{hold} / I_{trip} [A]

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
PFRX.110	1.71 / 3.42	1.5 / 3	1.31 / 2.62	1.1 / 2.2	0.89 / 1.78	0.79 / 1.58	0.69 / 1.38	0.59 / 1.18	0.44 / 0.88
PFRX.135	2.09 / 4.18	1.84 / 3.68	1.61 / 3.22	1.35 / 2.7	1.09 / 2.18	0.97 / 1.94	0.85 / 1.7	0.73 / 1.46	0.54 / 1.08
PFRX.160	2.48 / 4.96	2.18 / 4.36	1.9 / 3.8	1.6 / 3.2	1.3 / 2.6	1.15 / 2.3	1.01 / 2.02	0.86 / 1.72	0.64 / 1.28
PFRX.185	2.87 / 5.74	2.52 / 5.04	2.2 / 4.4	1.85 / 3.7	1.5 / 3	1.33 / 2.66	1.17 / 2.34	1 / 2	0.74 / 1.48
PFRX.250	3.88 / 7.76	3.4 / 6.8	2.98 / 5.96	2.5 / 5	2.03 / 4.06	1.8 / 3.6	1.58 / 3.16	1.35 / 2.7	1 / 2
PFRX.300	4.65 / 9.3	4.08 / 8.16	3.57 / 7.14	3 / 6	2.43 / 4.86	2.16 / 4.32	1.89 / 3.78	1.62 / 3.24	1.2 / 2.4
PFRX.375	5.81 / 11.6	5.1 / 10.2	4.46 / 8.92	3.75 / 7.5	3.04 / 6.08	2.7 / 5.4	2.36 / 4.72	2.03 / 1.06	1.5 / 3

Electrical Characteristics

Order Number	V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [mΩ]	R initial max [mΩ]	R 1 hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]
PFRX.110	60.0	40	1.1	2.2	0.15	0.25	0.38	5.5	8.2	1.50
PFRX.135	60.0	40	1.35	2.7	0.12	0.19	0.3	6.75	9.6	1.70
PFRX.160	60.0	40	1.6	3.2	0.09	0.14	0.22	8	11.4	1.90
PFRX.185	60.0	40	1.85	3.7	0.08	0.12	0.19	9.25	12.6	2.10
PFRX.250	60.0	40	2.5	5	0.05	0.08	0.13	12.5	15.6	2.50
PFRX.300	60.0	40	3	6	0.04	0.06	0.1	15	19.8	2.80
PFRX.375	60.0	40	3.75	7.5	0.03	0.05	0.08	18.75	24	3.20

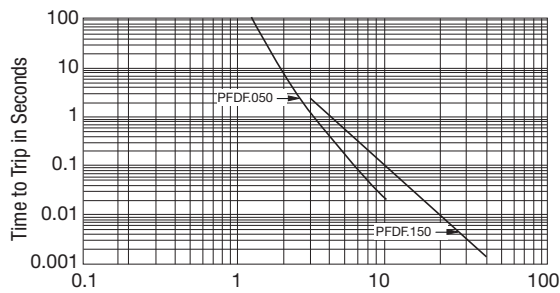
Packaging Unit

PFRX.xxx Bulk (500 pcs.)
PFRX.110.2 - PFRX.160.2 Taped 34 cm Reel (1500 pcs.)
PFRX.185.2 Taped 34 cm Reel (1000 pcs.)

TIME-CURRENT CURVES

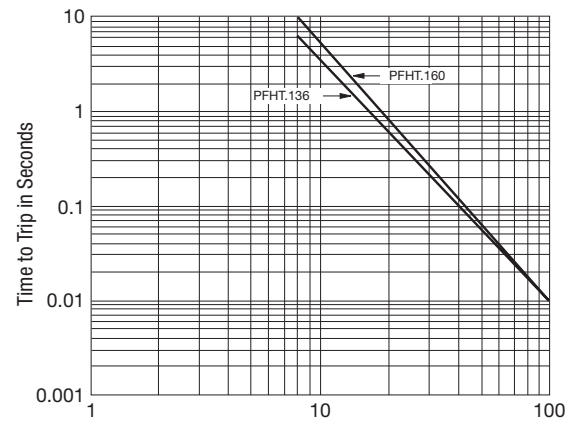
PTC FUSES

PFDf



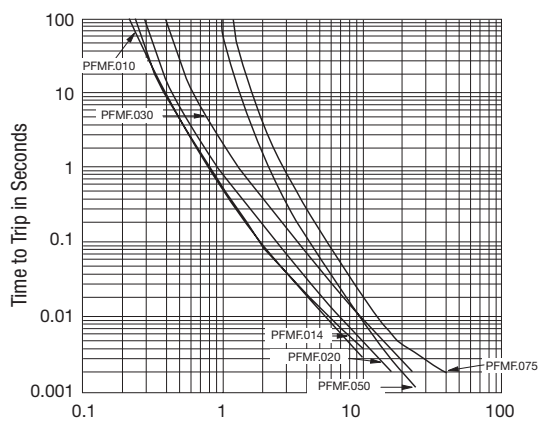
Fault Current in Amperes

PFHT



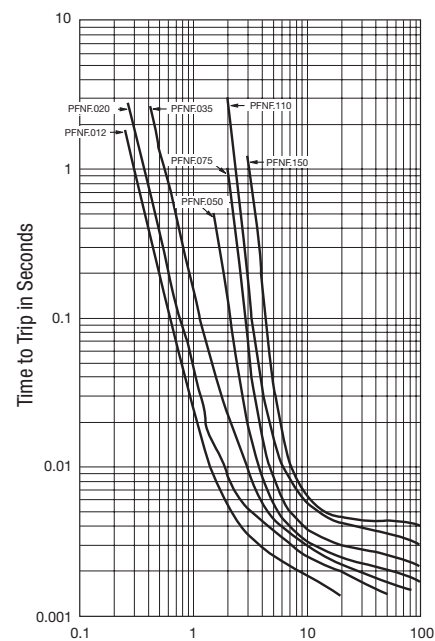
Fault Current in Amperes

PFMF



Fault Current in Amperes

PFNF



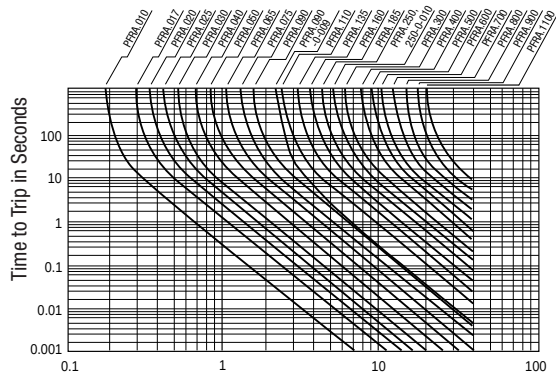
Fault Current in Amperes

TIME-CURRENT CURVES

PTC FUSES

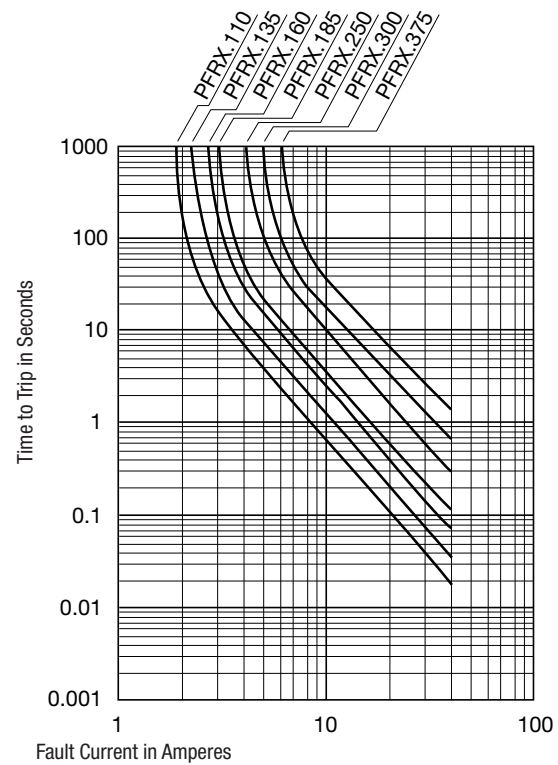


PFRA



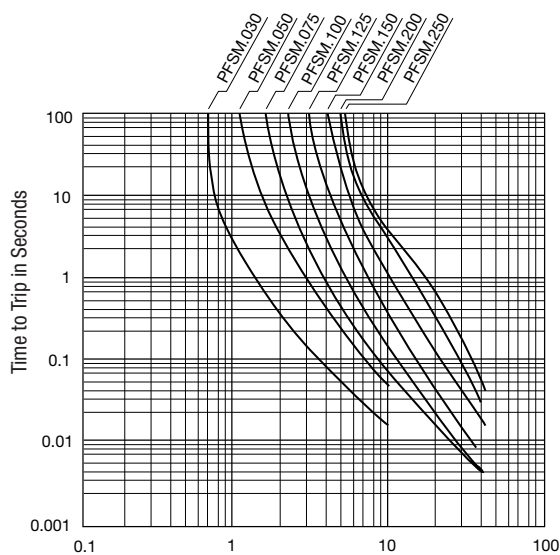
Fault Current in Amperes

PFRX



Fault Current in Amperes

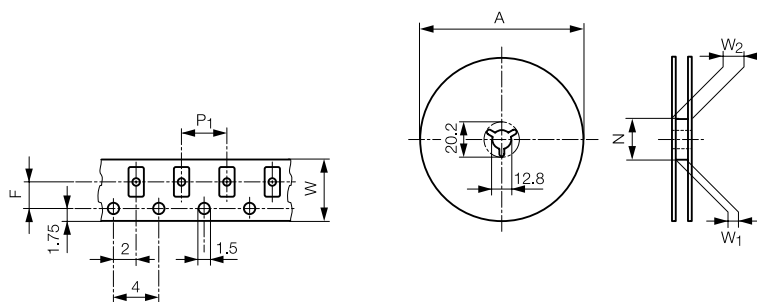
PFSM



Fault Current in Amperes

PACKAGING

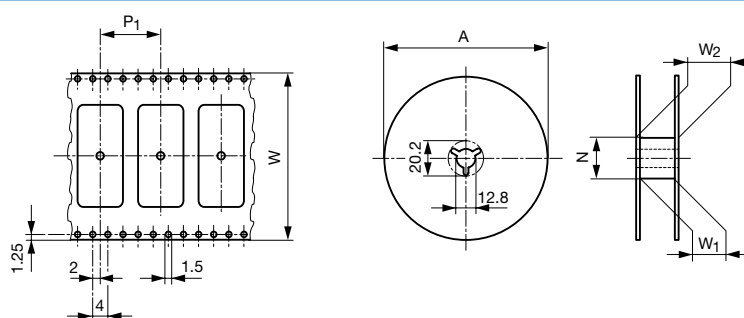
PACKAGING DETAILS	380
--------------------------	------------



Blisertape and Reel Dimensions

according to IEC 60286-3

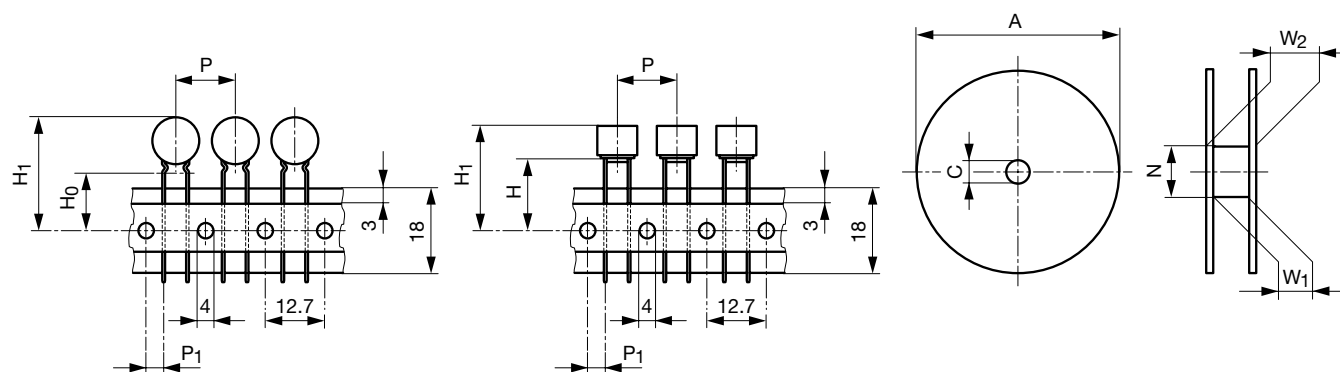
Type	P1 [mm]	F [mm]	W [mm]	N [mm]	W1 [mm]	W2 [mm]	A 750 Pcs.	A 1000 Pcs.	A 1500 Pcs.	A 2000 Pcs.	A 3000 Pcs.	A 5000 Pcs.	A 10000 Pcs.	A 15000 Pcs.
USF 0603	4	3.5	8	62	8.4	14.4		180 mm				180 mm		330 mm
USF 1206	4	3.5	8	62	8.4	14.4		180 mm				180 mm		330 mm
MGA	4	3.5	8	62	8.4	14.4	180 mm				180 mm			330 mm
UMT 250	8	11.5	24	62	24.4	30.4				330 mm				
172876	4	5.5	12	62	12.4	18.4			180 mm			330 mm		
MKF	4	5.5	12	62	12.4	18.4	180 mm [500 Pcs.]	180 mm						
MSB	4	5.5	12	62	12.4	18.4		180 mm				330 mm		
MKT	4	5.5	12	62	12.4	18.4	180 mm [500 Pcs.]	180 mm						
OMF 63	8	7.5	16	62	16.4	22.4	180 mm				330 mm			
OMK 63	8	11.5	24	62	24.4	30.4			330 mm					
OMF 125	8	7.5	16	62	16.4	22.4	180 mm				330 mm			
OMK 125	8	11.5	24	62	24.4	30.4	180 mm		330 mm					
OMT 125	8	7.5	16	62	16.4	22.4	180 mm				330 mm			
OMZ 125	8	11.5	24	62	24.4	30.4	180 mm		330 mm					
OMF 250	8	11.5	24	62	24.4	30.4				330 mm				
OMT 250	8	11.5	24	62	24.4	30.4				330 mm				
TF 600	8	11.5	24	62	24.4	30.4				330 mm				
OSU 125	8	7.5	16	62	16.4	22.4	180 mm				330 mm			
OSU 250	8	11.5	24	62	24.4	30.4				330 mm				
OMH 125	8	11.5	24	62	24.4	30.4	180 mm		330 mm					
PFNF	4	3.5	8	62	8.4	14.4					180 mm			
PFMF	8	5.5	12	62	12.4	18.4			180 mm	180 mm				
PFDF	8	7.5	16	62	16.4	22.4					360 mm			
PFSM	8/12	7.5	16	62	16.4	22.4			360 mm	360 mm				
PFHT	8/12	7.5	16	62	16.4	22.4			360 mm	360 mm				



Blisertape and Reel Dimensions

according to IEC 60286-3

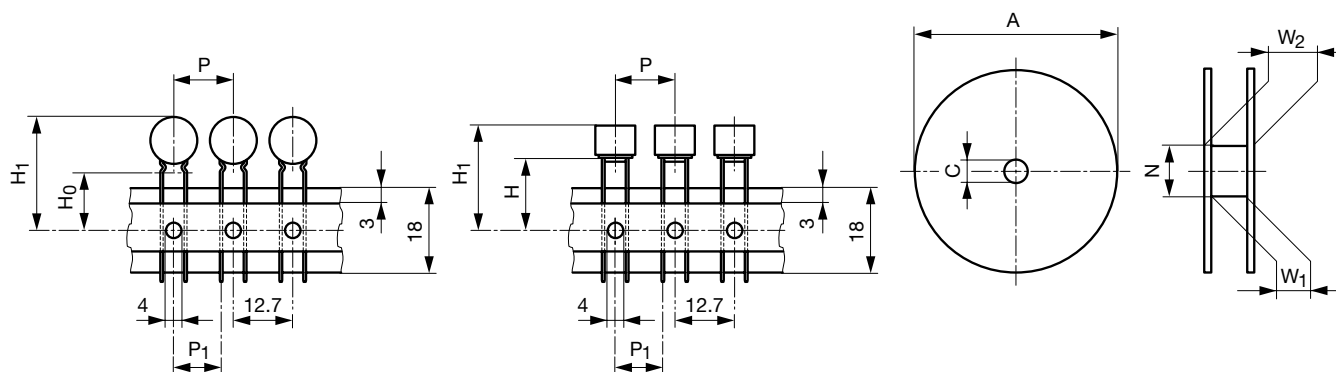
Type	P1 [mm]	W [mm]	N [mm]	W1 [mm]	W2 [mm]	A 250 Pcs.	A 400 Pcs.	A 2000 Pcs.
SMD-FST	8	32	100	32.4	38.4			380 mm
SMD-SPT	8	32	100	32.4	38.4			380 mm
SMD-FTT	8	32	100	32.4	38.4			380 mm
OGN-SMD	16	44	100	44.4	50.4	380 mm		
FPG7	16	56	150	56.4	62.4	380 mm		



Tape and Reel Dimensions

according to IEC 60286-2

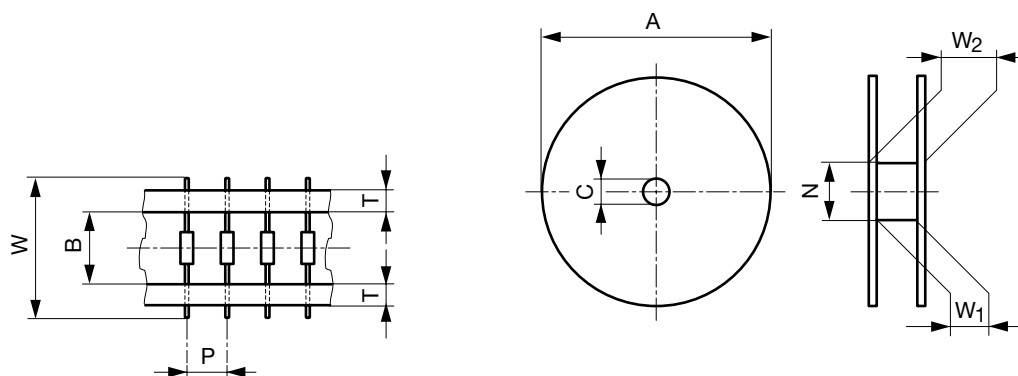
Type mm	P [mm]	P1 [mm]	H1 [mm]	H0 [mm]	H [mm]	N [mm]	W1 [mm]	W2 [mm]	C [mm]	A 750 Pcs.	A 1000 Pcs.	A 1500 Pcs.	A 3000 Pcs.
MSF 125	12.7	5.08	25.8		18	80	40	52	30.5		360 mm		
MSF 250	12.7	3.81	26.45		18	80	40	52	30.5	360 mm			
MST 250	12.7	3.81	26.45		18	80	40	52	30.5	360 mm			
MSTU 250	12.7	3.81	26.45		18	80	40	52	30.5	360 mm			
MXT 250	12.7	3.81	26.45		18	80	40	52	30.5	360 mm			
PFRA.010.2 ... 160.2	12.7	3.81	32.2	16		80							340 mm
PFRA.185.2 ... 400.2	25.4	3.81	38		18.5	80						340 mm	
PRFX.110.2 ... 375.2	25.4	3.81	38		18.5	80				340 mm	340 mm		



Tape and Reel Dimensions

according to IEC 60286-2

Type	P [mm]	P1 [mm]	H1 [mm]	H0 [mm]	H [mm]	N [mm]	W1 [mm]	W2 [mm]	C [mm]	A 500 Pcs.	A 1000 Pcs.
FRT 250F	12.7	8.95	26		18	80	40	52	30.5	360 mm	360 mm
FRT 250T	12.7	8.95	26		18	80	40	52	30.5	360 mm	360 mm

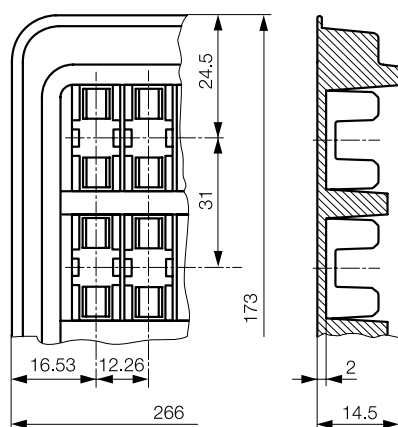


Tape and Reel Dimensions

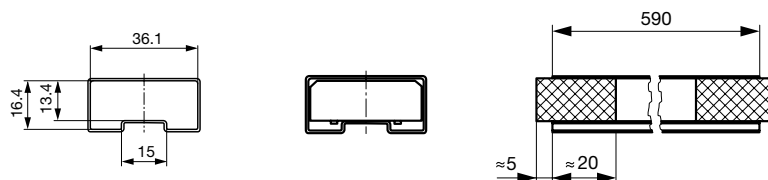
according to IEC 60286-1

Type	P [mm]	B [mm]	W [mm]	T [mm]	N [mm]	W1 [mm]	W2 [mm]	C [mm]	A 500 Pcs.	A 1000 Pcs.	A 1500 Pcs.	A 5000 Pcs.
172321	5	53	65	6		70	77	30.5			192 mm	
172321	5	73	86	6		90	97	30.5			192 mm	
172322	5	53	65	6		70	77	30.5			192 mm	
172322	5	73	86	6		90	97	30.5			192 mm	
172593	5	73	85	6		90	97	30.5		192 mm		
172844	5	73	85	6		90	97	30.5		192 mm		
FSF 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		
FST 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		
SP 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		
SPT 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		
FSK 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		
FSL 5x20 Pigtail	10	63	75	6	80	80	94	30.5		330 mm		

Blistertray Dimensions: OGN-SMD (0031.8222), 500 Pcs., Bulk with 5 Blistertrays, 5x20 Pcs. each



Bar Packaging Dimensions: OGD-SMD (0031.8241.F1), 1000 Pcs., Bulk with 20 bars, 50 Pcs. each



GENERAL PRODUCT INFORMATION

PRODUCT STANDARD / DEFINITIONS / CE / CONFORMITY / APPROVALS	384
ELECTRICAL PROTECTION	385
MINIATURE FUSE-LINKS	386
TELECOM FUSES	390
FUSEHOLDERS	394
PTC-CIRCUIT PROTECTION	397

PRODUCT STANDARD – EQUIPMENT STANDARD

The product standard only contains minimum requirements. Attention is drawn to the fact that appliance specifications might contain requirements additional to or deviating from those specified in the relevant product standards.

COMMENTS ON DEFINITIONS USED

Please be aware that the specifications nominal value used in the German catalogue and data sheets, is synonymous with rated value.

The difference between these two values is a pure matter of definition. In order to avoid any unnecessary complications we will continue to use the specifications nominal value.

CE MARKING**ACC. TO EU-DIRECTIVES**

CE marking is the only marking which indicates that a product conforms to the relevant EU-directive.

This means that the CE-mark is no quality or standard conformity mark but only an administration mark.

Schurter products are covered by the low voltage directives 72/23/EEC and 93/68/EEC. Those are valid for equipment and appliances with rated voltage values between AC 50 V to AC 1000 V as well as DC 75 V to DC 1500 V.

The CE marking of Schurter parts will be found on the label of the smallest packing unit.

On request we will submit a CE conformity statement for each component. CE certification statements and approvals can also be retrieved from the internet under www.schurter.com.

CONFORMITY TO COMPONENT STANDARDS, NATIONAL APPROVALS

National testing institutions are testing according to national and international standards or other generally recognized rules of technology. Their certification/approval-marks confirm the observance of the safety requirements which electric appliances must fulfil.

NATIONAL APPROVALS

ENEC European Norms Electrical Certification



ENEC Mark

VDE Verband der Elektrotechnik Elektronik Informationstechnik e. V.



VDE Mark



VDE Certificate of Conformity in conjunction with factory surveillance



UMF = Universal Modular Fuse meets the standard IEC 60127-4

UL/CSA Underwriters' Laboratories/Canadian Standard Association



UL/CSA Listed



UL/CSA Recognised

UL Underwriters' Laboratories



UL Listed



UL Recognised

CSA Canadian Standard Association



Canadian Standard Association



Canadian Standard Association, Component Acceptance Service

CQC China Quality Certification Center



China Compulsory Certification (Certificate)

CCC Free of CCC or DFC (Define for free of CCC Confirmation)

PSE, JET Japan Electrical Safety & Environment technology Laboratories



METI



KTL Korea Testing Laboratory



K-Mark

TÜV Technischer Überwachungs Verein



TUV Mark



Norme française

NNO Numéro de nomenclature Otan (OTAN = NATO = North Atlantic Treaty Organisation)



Liste interarmées AIR MER TERRE de composants électroniques

In addition to the combined UL/CSA approvals, most of the SCHURTER components are also approved by one of the European Certification Bodies like VDE (Germany), Electrosuisse (Switzerland) or SEMKO (Sweden). The safety testing of all these European Certification Bodies are based on the common European Safety Standards. With the harmonisation effort in Europe, the different National European Certification Bodies have lost their importance and SCHURTER has decided to maintain only one European approval (e.g. VDE, SEV or SEMKO) in future. The others will not be renewed once they have expired.

Because UL and CSA are not members of the CENELEC, the standards of UL and CSA are not harmonised yet with the European Standards. However, UL and CSA are trying to harmonize their standards with each other. Where possible, SCHURTER will apply for the combined cULus or cURus approval. In any event, SCHURTER will continue to keep the two approvals from UL and CSA in future.

Further to development in Asia, SCHURTER has obtained national approvals from China, Japan and Korea.

ELECTRICAL PROTECTION

1. IP Degrees of protection provided by enclosures (IP Code) Standards IEC 60529

1.1 Scope

These standards apply to the classification of degrees of protection provided by enclosures for electrical equipment with a rated voltage not exceeding 72,5 kV.

1.2 Object

The object of these standards is to give:

- a) **Definitions** for degrees of protection provided by enclosures of electrical equipment as regards:
 - 1. Protection of persons against access to hazardous parts inside the enclosure
 - 2. Protection of the equipment inside the enclosure against ingress of solid foreign objects
 - 3. Protection of the equipment inside the enclosure against harmful effects due to the ingress of water.
- b) **Designations** for these degrees of protection.
- c) **Requirements** for each designation.
- d) **Tests** to be performed to verify that the enclosure meets the requirements of these standards.

1.3 Designations

The degree of protection provided by an enclosure is indicated by the IP Code.

1.4 Elements of the IP Code and their meanings

A brief description of the IP Code elements is given in the following table.

IP = xy	Meaning for the protection of equipment	Meaning for the protection of persons
	Against ingress of solid foreign objectif	Against access to hazardous parts with
x = 0	(non-protected)	(non-protected)
x = 1	50 mm diameter	back of hand
x = 2	12,5 mm diameter	finger
x = 3	2,5 mm diameter	tool
x = 4	1,0 mm diameter	wire
x = 5	dust-protected	wire
x = 6	dust-tight	wire
	Against ingress of water with harmful effects	
y = 0	(non protected)	
y = 1	vertically dripping	
y = 2	dripping (15° tilted)	
y = 3	spraying	
y = 4	splashing	
y = 5	jetting	
y = 6	powerful jetting	
y = 7	temporary immersion	
y = 8	continuous immersion	

2. Protection against electric shock

- 2.1 Protection against direct and indirect contact – General terms
The protection against electric shock on electric equipment as well as their components are divided into the following parts:
 - Protection against direct contact with live parts concerns all measures for the protection of human beings and animals against hazards which result from direct contact with live parts of electric equipment and their components.
 - Protection against indirect contact is the protection of human beings and animals against hazards which result from contact of live parts¹ of electric equipment as well as components thereof, which have become live due to an insulation failure.

¹ Accessible, conductive part, which is not conductive normally but which may be conductive due to a failure.
- 2.2 Protection against direct contact with live parts e.g. of a fuseholder
The data sheets of the relevant components inform about the taken measures.
- 2.3 Protection against indirect contact
Measures for the protection against indirect contact on electrical equipment are defined according to IEC 61140 by the 4 protection classes 0, I, II, III. Each protection class includes two protection measures. Even if one of these measures should fail, no electric shocks will occur.

Protection class	Main protective measures
0	1. Basic insulation between live parts and accessible conductive parts. 2. Earth-free location, non-conducting environment.
I	1. Basic insulation between live parts and accessible conductive parts. 2. Means are provided for the connection of accessible conductive parts of the equipment to the protective (earthing) conductor in the fixed wiring of the installation in such a way that accessible conductive parts cannot become live in the event of a failure of the basic insulation.
II	1. Basic insulation between live parts and accessible conductive parts. 2. Additional insulation. Basic and supplementary insulation are summarised under the term "double insulation". Under certain circumstances also a "reinforced insulation" (single insulation system) may guarantee an equivalent protection against electric shock as a "double-insulation" does. No terminal for a protective conductor is allowable. A possibly existing protective conductor must not be connected and has to be insulated like any live part.
III	1. Functional insulation. 2. Supply at safety extra-low voltage SELV (the circuit is isolated from the mains supply by such means as a safety isolating transformer). The protection against electric shock is in this case completely based on the supplying by SELV-circuits ($U \leq 42$ V). Higher voltages are not generated in the equipment. No terminal for a protective conductor is allowable.

MINIATURE FUSE LINKS

Explanations, application notes

The design engineer of electrical equipment is responsible for its safety and functioning to humans, animals and real values. Above all, it is his task to make sure that the state of the art as well as the valid national and international standards and regulations be observed.

The following information about fuse-links and their application are to be taken into consideration when selecting a fuse-link.

In view of the product liability of electrical equipment the selection of the most suitable fuse-link is of great importance.

1. Fuse

A fuse is a self-acting device that, by the fusing of one of its specially designed and proportioned components, opens the circuit in which it is inserted by breaking the current when this exceeds a given value for a sufficient time.

Definition according to IEC 60127:

The fuse comprises all the parts that form the complete device, that means fuseholder and fuse-link.

Definition according to UL 248-1:

A North American fuse is an IEC fuse-link. An IEC fuse is a North American fuse with a fuse-holder.

2. Fuse-link (IEC 60127)

The part of a fuse including the fuse-element intended to be replaced after the fuse has operated. Fuse-links according to IEC 60127 relate to miniature fuses for the protection of electric appliances, electronic equipment and components thereof normally intended to be used indoors. These fuse-links are not permitted for equipment, which has to operate under special circumstances, e.g. in a corrosive or explosive environment.

3. Miniature fuse-link (IEC 60127)

An enclosed fuse-link of rated breaking capacity not exceeding 2 kA and which has at least one of its principal dimensions exceeding 10 mm.

4. Sub-miniature fuse-link (IEC 60127)

A miniature fuse-link of which the case (body) has no principal dimensions exceeding 10 mm.

Sub-miniature fuse-links are especially suitable for printed circuit boards. They are available for the through hole technique and surface mounting technique (SMT).

5. Standards for fuse-links

IEC 60127	Miniature fuses (general title)
IEC 60127-1	Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links
IEC 60127-2	Part 2: Cartridge fuse-links
IEC 60127-3	Part 3: Sub-miniature fuse-links
IEC 60127-4	Part 4: Universal modular fuse-links
IEC 60127-5	Part 5: Guidelines for quality assessment for miniature fuse-links
NF C 93-435	Cartridge Fuses with improved characteristics
UL 248-1	Low-Voltage Fuses: General requirements
UL 248-14	Low-Voltage Fuses: Supplemental Fuses
CSA C22.2 no. 248.1	Low-Voltage Fuses: General requirements
CSA C22.2 no. 248.14	Low Voltage Fuses: Supplemental Fuses

IEC: International Electrotechnical Commission

UL: Underwriters Laboratories Inc. USA

CSA: Canadian Standards Association

NF: French Standard

6. Rated voltage U_n

The rated voltage is the voltage up to which the fuse-link correctly interrupts an overcurrent.

The rated voltage of a fuse-link must be greater than or equal to the operating voltage of the equipment which is to be protected.

The use during operating voltages below the rated voltage of the fuse-link is permitted only, when the instructions regarding voltage drop (pos. 8) are taken into consideration.

The fuse-links are on principle suitable for use at alternating and direct voltage. The breaking capacity at direct-voltage is however considerably lower than the one at alternating voltage. The performance of the fuse-link at direct-voltage mainly depends on the size of the time-constant $\tau = L/R$ of the load circuit.

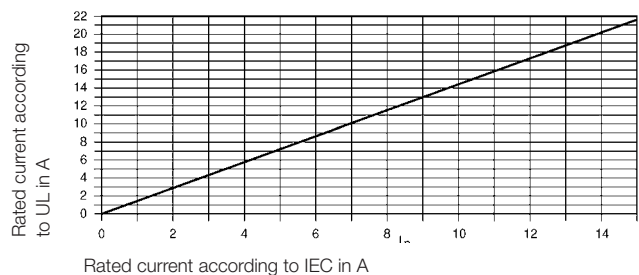
7. Rated current I_n

The rated current of the fuse-link corresponds to the operating current of the equipment to be protected. Basically there are two different rated current definitions:

- On fuse-links according to IEC 60127 and EN 60127 the rated current corresponds to the current, which the fuse-link can be exposed to continually, according to the standardized regulations, without interrupting the fuse-link.
- On fuse-links according to UL 248-14 however, the rated current corresponds to the current, which would interrupt the fuse-link already after a few hours. The current, which according to IEC, can flow constantly without interrupting the fuse-link, is approx. $0,7 \cdot I_n$.

Regarding influences of ambient air temperatures $> 23^\circ\text{C}$ on the rated current see pos. 1

Correlation between the rated current of fuse-links according to IEC and UL:



8. Voltage drop

The voltage drop across a fuse-link is measured at an ambient air temperature of 23 °C, when the fuse-link has carried its rated current for a time sufficient to reach temperature stability.

Attention is drawn to the fact that problems can arise when fuse-links are used at operating voltages considerably lower than their rated voltage. Due to the increase of the voltage drop when the element of a fuse-link approaches its melting point, care should be taken to ensure that there is sufficient circuit voltage available to cause the fuse-link to interrupt the current when an electrical fault occurs. Furthermore, fuse-links of the same type and rating may, due to difference in design or element material, have different voltage drops and may therefore not be interchangeable in practice when used in applications with low circuit voltages, especially in combination with fuse-links of lower rated currents.

9. Non fusing current I_{nf}

A value of an over-current specified as that which the fuse-link is capable of carrying for a specified time (typical 1 hour) without melting.

10. Pre-arcing time/current characteristic (at T_a 23 °C)

The time-current-characteristic indicates the relation of the pre-arcing time (melting time) to the fault current.

The pre-arcing time is the interval of time between the beginning of a current large enough to cause a break in the fuse-element and the instant when an arc is initiated.

The arcing time is the interval of time between the instant of the initiation of the arc and the instant of final arc extinction. The arcing time is not considered in the time-current-characteristic.

The operating time (total clearing time) is the sum of the pre-arcing time and the arcing time.

The time-current-characteristics are shown as an envelope for all mentioned rated currents.

Usual time-current-characteristic and their symbols:

FF: denoting very quick acting
F: denoting quick acting
M: denoting medium time-lag
T: denoting time-lag
TT: denoting long time-lag

UL fuse-links are normally divided into:

- Non Time Delay fuse-links. These fuse-links are sometimes also referred to as Normal blow or Quick acting types.
- Time Delay fuse-links. These fuse-links are sometimes also referred to as Slow blow or Surge proof types.

Application notes for the various characteristics:

FF: Super-quick-acting fuse-links

Protection of semiconductors (thyristors, triacs, diodes).

This fuse type tolerates small overcurrents only during a short period of time and limits the current at small short circuit currents. Current limiting even with low short circuit currents.

F: Quick-acting fuse-links

Protection of semiconductors and of an equipment with no current surge when operating or switching on and also for such devices where high overcurrent or high short-circuit current must be interrupted quickly.

M: Medium time lag fuse-links

Protection devices subjected to moderate in-rush currents and/or overcurrent peaks for a short time. Low voltage drop.

T: Time-lag fuse-links

Protection of devices subjected to high in – rush currents and/or overcurrent peaks which decrease only slowly (e.g. transformers and motors).

TT: Super time-lag fuse-links

Protection of devices subjected to longer lasting in-rush currents and/or high overcurrent peaks.

11. Breaking capacity of a fuse-link (UL: interrupting rating IR)

A value (r.m.s. for alternating current) of prospective current that a fuse-link is capable of breaking at a stated voltage under prescribed conditions of use and behaviour.

The max. short-circuit current, which can occur in electric circuit of an equipment, due to fault conditions, may not exceed the breaking capacity of the fuse-link. Non-compliance of this rule can cause the danger of explosions and fire.

At direct current the breaking capacity of a fuse-link is lower than at alternating current. Values are given on request.

IEC 60127 miniature fuse-links are classified into two categories (for sub-miniature fuse-links other breaking capacities are defined).

Fuse-links with Low Breaking Capacity, symbol L.

Typically, the fuse-element of this type of fuse-link is visible. The insulation tube consists of transparent material, normally glass. There is no extinguishing medium, the arc is quenched in air.

The breaking capacity is:

250 VAC/35A or $10 \cdot I_n$ p.f.1 whichever is greater.

Fuse-links with High Breaking Capacity, symbol H.

Typically, the fuse-element of this type of fuse-link is not visible. The insulation tube normally is of ceramic material or glass. To quench the arc, there is often an extinguishing medium.

The breaking capacity is:

250 VAC 1500A p.f. 0.7 to 0.8

UL's and CSA's short circuit requirements (interrupting rating IR) are different as relates to IEC.

Interrupting ratings at $\left. \begin{array}{l} 125 \text{ VAC} = 10'000 \text{ A} \\ 250 \text{ VAC} = 35 \text{ to } 1500 \text{ A} \end{array} \right\} \text{ p.f. } 0,7-0,8$
depending on rated current of the fuse-link.

12. Power dissipations

12.1 Max. sustained power dissipation

a) Fuse-links according to IEC 60127:

The test is carried out according to a standardised test procedure (open fuse-holder, room temperature).

The power dissipation produced by the non fusing current I_{nf} after one hour is determined.

Non fusing currents are different and depend on the fuse-link type.

In the SCHURTER catalogue you will usually find two values of sustained power dissipation, namely:

- the maximum sustained power dissipation i.e. according to IEC 60127.
- The typical sustained power dissipation of the SCHURTER fuse-links. These values are mostly lower than the standardised ones.

b) Fuse-links according to UL 248-14:

UL does not, like IEC, determine the sustained power dissipation, but measures the maximum permissible temperature increase from 75 °C at $1 \cdot I_n$ on the outer surface of the fuse-link according to the UL standard.

12.2 Rated power dissipation

The power dissipation caused by the rated current (over a long period). With respect to the power acceptance for the selection of a suitable fuseholder this rated power dissipation is considered.

13. I²t-value (joule integral)

The integral of the square of the current over a given time interval. The I²t-value is a measure of the energy required to disrupt the fuse-link. That means for heating up the fuse-element to its melting temperature, for melting the fuse-element and for interruption of the current via an arcing period. Normally, distinction is made between.

- the pre-arcing I²t (or fusing I²t)
is the I²t integral extended over the pre-arcing time of the fuse-link. It represents the energy for heating up and melting the fuse-element. At high over-currents with melting times <10 ms the pre-arcing I²t remains constant (adiabatic conditions). Sometimes the pre-arcing I²t is determined by 10.times the rated current, based on the time-current-characteristic. The pre-arcing I²t is a characteristic value of a fuse-link and informs about his resistance to pulses and in-rush-currents.
- the arcing I²t
is the I²t integral extended over the arcing time of the fuse-links. It represents the arc-energy. The arcing I²t depends on the electrical circuit parameters (e.g. operation voltage, power factor, closing angle etc.) of an electrical circuit.
- The operating I²t (or: total I²t)
is the sum of pre-arcing and arcing I²t. This value is an important parameter for the application of a fuse-link. It characterises the energy exposed to the object (let-through-energy) to be protected by the fuse-link in case of a fault current.

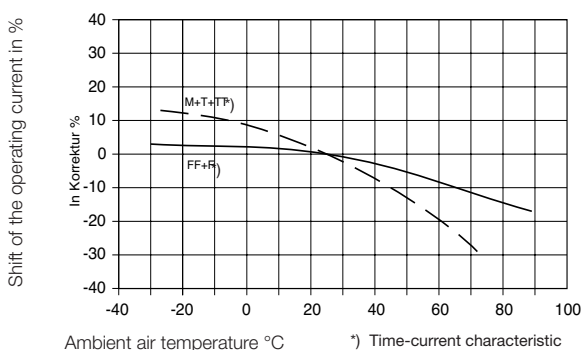
Application notes:

In order to choose the right fuse-link, the permitted I²t-value of the component or component group to be protected, has to be known.

Selection criteria: The electric circuit to be protected contains:

- Components, which can cause in-rush currents, e.g. transformers. In this case, a fuse-link has to be chosen with a pre-arcing I²t-value which is higher than the one of the in-rush-current.
- Components, which are sensitive to current impulses, e.g. semi-conductors. In this case a fuse-link has to be chosen, with an operating I²t-value which is lower than the one of the components to be protected.

Shift of the operating current as a function of ambient air temperature



14. Ambient air temperatures

The standardised current carrying capacity tests (IEC and UL) of fuse-links are performed at 23 °C and 25 °C respectively. In practical applications, the fuse-link's ambient temperature may be significantly higher, especially if the fuse-link is used in an unexposed fuseholder or mounted near other heat generating components. For such applications, the shift of the operating current according to the following diagram has to be considered.

15. Marking of the fuse-links

Marking according to IEC 127

Example: T 200 mA L 250 V 

T rated current in mA or A
 200 rated current in mA or A
 mA symbol, denoting the rated breaking capacity
 L rated voltage in V
 250 rated voltage in V
 Schurter Logo

Additional marking: approval marks

16. Interchangeability of IEC- by UL fuse-links and Vice Versa

Fuse-links according to IEC and UL have different features and are on principle not interchangeable. However, after a thorough check of the technical data it may be possible to interchange, when the following, most important requirements are met.

- The rated currents must be adapted (see pos.7)
- The breaking capacity must be compatible.
- The time-current characteristic and voltage drop must be roughly the same.

17. Exchange of fuse-links under load

A fuseholder with an installed fuse-link shall not be used as a «switch» for turning power «on» and «off».

An opening and closing of electric-circuits may cause current- and voltage surges, depending on the dimension of the electric circuit. Such current or voltage peaks produce an arc between the contact points, which causes an increase of the contact resistance. In order to prevent the fuseholder from permanent damage, a fuse-link shall only be exchanged when power in an electric circuit is switched off.

18. Quality assessment of fuse-links

SCHURTER fuse-links meet with the requirements according to IEC 60127-5 and EN 60127-5.

More detailed information is available on request.

19. Reliability of fuse-link (MIL-HDBK-217F)

The reliability modeling of fuses presents a unique problem. Unlike most other components, there is very little correlation between the number of fuse replacements and actual fuse failures. Generally when a fuse opens, or «blows» something else in the circuit has created an overload condition and the fuse is simply functioning as designed.

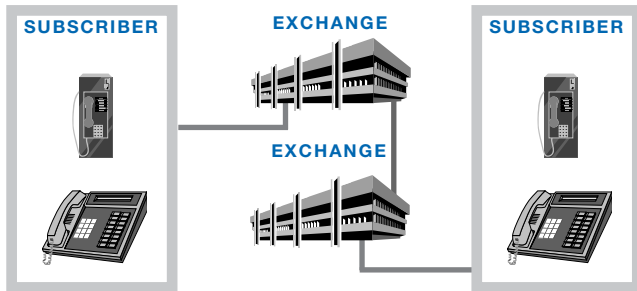
FUSE-LINK SELECTION GUIDE

1. The operating voltage U_B of the equipment to be protected defines the rated voltage U_N of the fuse-link (see pos. 6) $U_N \geq U_B$. For $U_B \ll U_N$ please refer to the remarks regarding voltage drop (see pos. 8).
2. The max. operating current of the equipment to be protected defines the rated current of the fuse-link. The different definitions for rated current according to IEC or UL as well as the influence of higher ambient temperatures are to be taken into consideration (pos. 6 and 14).
3. The possible fault current as well as its permitted operating times in the electric circuit of the equipment to be protected define the time-current-characteristic of the fuse-link (see pos. 10).
4. The necessary breaking capacity of the fuse-link depends on the max. short-circuit current, which can occur under fault conditions in the electric circuit of the equipment to be protected. It must be lower than the max. current which can be interrupted by the fuse-link. (see pos. 11)
5. The rated power dissipation of the fuse-link is of importance for the selection of the suitable fuseholder (see pos. 12.2).
6. If current impulses occur in the electric circuit of the equipment to be protected, which may not interrupt the fuse-link under any circumstances or if the let-through-energy of the fuse-link may only reach a certain value (eg. protection of semi-conductors) the I^2t values have to be taken into consideration accordingly (see pos. 13).
7. The necessary approvals are mostly defined by national and international standards for equipment. SCHURTER fuse-links are according to international standards and were approved by the different agencies (refer to data sheets for the individual fuse-links).
8. It is essential that the selected fuse-links/fuse-holders that are fitted to the equipment to be protected, are being tested under normal and fault conditions, even if all relevant criteria for selection have been taken into consideration.

TELECOM FUSES

Introduction

Telecommunication equipments serve for data exchange between a variety of subscribers. Communication takes place in various ways, e. g. per telephone, FAX etc. This gives rise to the following classical network topology:

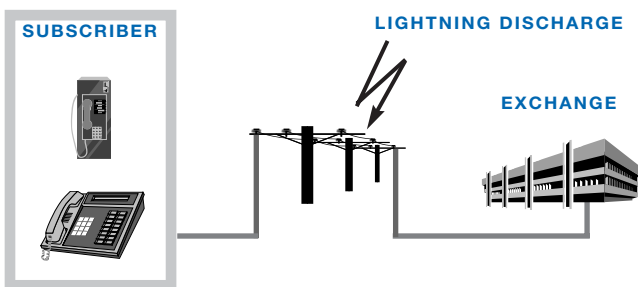


There can be extremely diverse distances between individual subscribers (man, machine). This means that network connections (overhead lines, signal cables) can be subject to various interference sources.

- Atmospheric interference, (lightning discharge, switching operations)
- Interference by power induction (equalizing currents, vicinity of power cables)
- Direct contact with energy network (short-circuits)

Interference sources

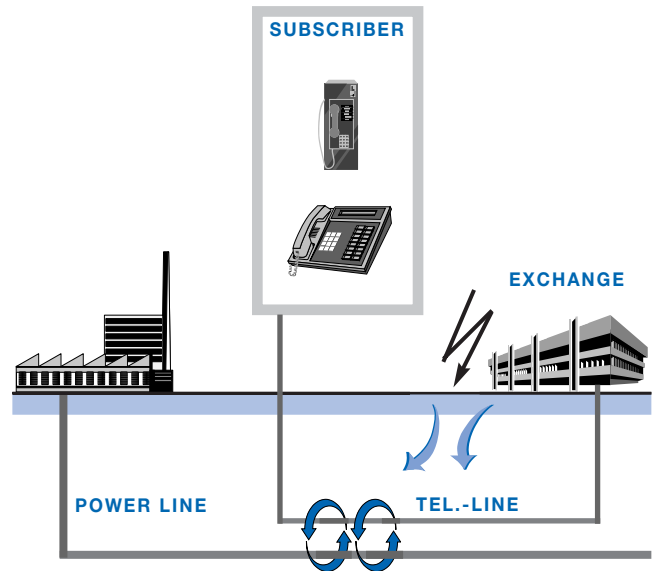
Atmospheric interference (Lightning Surge)



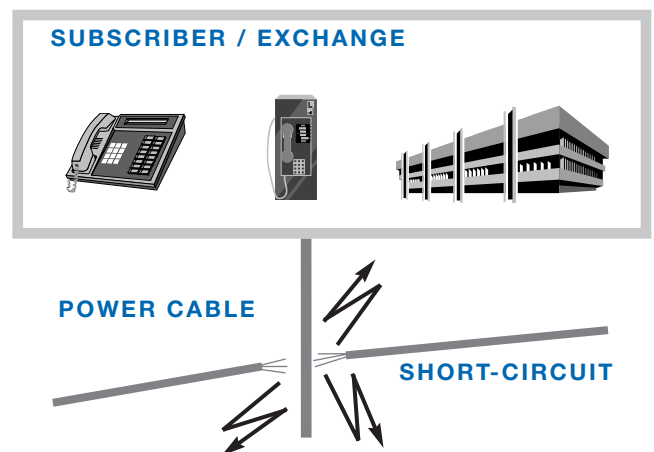
Interference through atmospheric discharge is very frequent. Occurring voltages are of the order of 100 kV with discharge currents up to 150 kA. Effects due to direct lightning stroke are principally to be expected on exposed signal lines (overhead lines).

Interference by induction (Power Induction)

Induction voltages occurring as interference on telecom lines are usually a result of circulating or equalizing currents in the earth or are produced by strong currents in adjacent power cables.



Direct contact with the power network (Power Contact)



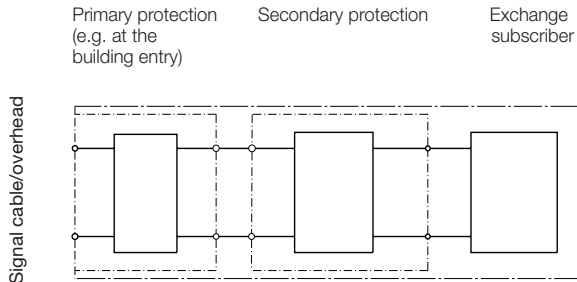
The highest intensity and usually long duration influence on a telephone line (a few seconds to several minutes) is by direct contact with the power network, e.g. short-circuit with an adjacent power cable.

PROTECTION EQUIPMENT

Regardless of which interference acts on the telecom equipment, it must be guaranteed at all times that no damage occurs, or only limited damage whose effects can be calculated.

As shown below, this requirement can be satisfied by the use of appropriate protection circuits.

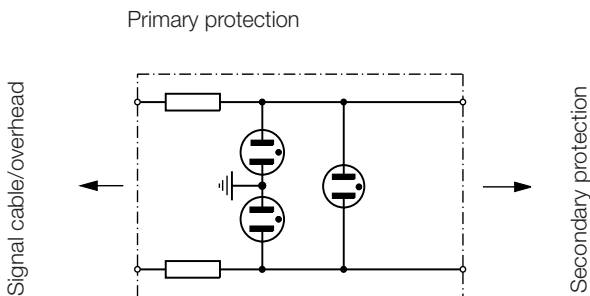
Protection circuits in the telecom branch are usually designed on the two-stage principle. They comprise a primary and secondary protection.



Primary protection

Primary protection frequently comprises a combination of resistors and surge arrestors and is usually located at the «building entry» interface.

The task of the illustrated primary protection circuit is to sufficiently reduce the high-energy interference distortion so that they can be safely absorbed by the following secondary protection.



The secondary protection

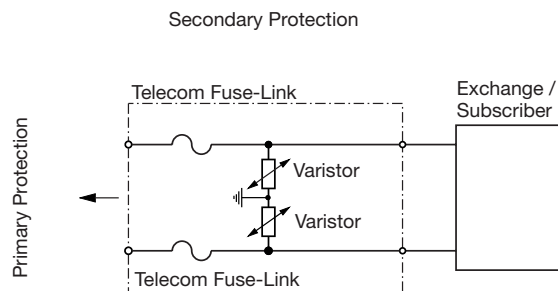
The secondary protection is normally located directly at the appliance entry of the telecom equipment and has two objectives.

1. It operates as a voltage limiter which ensures that interference up to a defined amplitude, not yet capable of activating the primary protection, is absorbed or reduced to a level harmless for the telecom equipment.
2. It effectively suppresses high energy level interferences, which can no longer be adequately absorbed by the primary protection (e.g. in case of direct contact between the signal lines and the power network), by galvanic decoupling of the circuit. This prevents the occurrence of serious damage, even fire, in the telecom equipment.

The following schematic diagram shows a frequently used and extremely reliable protection circuit for this purpose.

The circuit, which in its simplest form comprises two fuse-links and two varistors, is characterised by an extremely attractive cost-benefit ratio. The varistors limit the interference voltage peaks to a level compatible for the telephone exchange, respectively subscriber circuit. Under these normal conditions, the fuse-links remain intact.

Under worst-case conditions, e.g. direct contact with the power network, where both the telecom equipment components and the varistors in the protection circuit would be seriously damaged or destroyed, the fuse-links interrupt the circuit, thus effectively and reliably protecting the telecom equipment.



Introduction

Several standards have been established for the Telecom application field, all of which are aimed at combining the interference influences, Lightning Surge, Power Induction, Power Contact, previously described under the title "Application Note" together with the associated safety aspects, and to derive suitable testing methods for the components in question.

Various kinds of loads have been defined and standardised as testing criteria. They can be simulated with the aid of an appropriate test circuit. This provides circuit designers with the facility for optimally adapting the stages of a protection circuit to one another.

The presently relevant standards are.

ITU-T K.20	International Telecommunication Union, Standardisation Sector of ITU
UL 60950	UL Standard for Safety for Information Technology Equipment
GR-1089 CORE	Telcordia Technology

(The list is not exhaustive)

Tests:

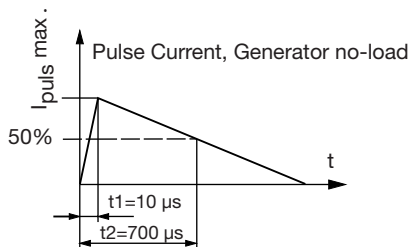
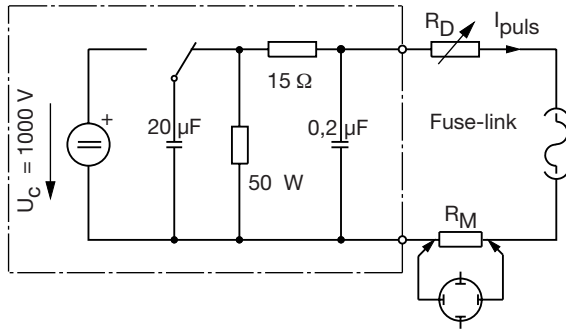
Schurter fuselinks have been tested according to the following standards and testing criteria:

1. ITU-T K.20

Lightning Surge: Test circuit

Test:

1. The pulse amplitude (generator no-load) is set to 1000 V and the pulse shape to 10 μ s / 700 μ s.

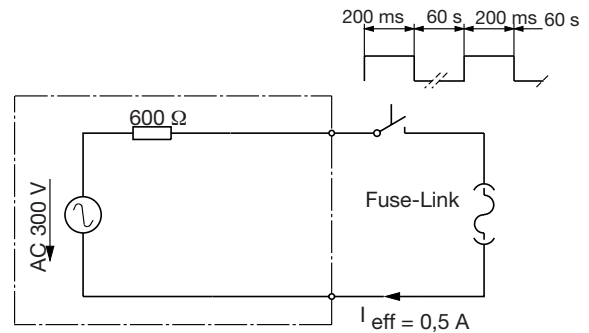


2. The pulse current I_{puls} is set to the value $I_{puls \text{ max.}}$ stated in the data sheet with limiting resistor R_D .
3. Test mode : 10 single pulses, at an interval of 60 sec. alternating polarity.
Requirement: The fuse shall not interrupt the circuit.

1) Note:

With a charge voltage of $U_C = 1000$ V, the standardized pulse generator in Fig. 1 supplies a maximum pulse current $I_{puls} = 67$ A, providing the current limiting resistor is $R_D = 0\Omega$. The shunt R_M for the current monitoring has a very low resistance and has therefore no notable influence to the current amplitude. This means that the data sheet current 67 A (1) does not represent the maximum permissible pulse amplitude of the fuselink in question, but the maximum current amplitude which can be supplied by the pulse generator. If a max. current higher than 67 A is to be expected in a circuit, the I^2t -values of the fuse-link can be calculated using the formula $I^2t = 0,72 \times I_{peak}^2 \times t_2$, as a good approximation in order that the selected fuse-link can accept the expected current pulse without interrupting the circuit.

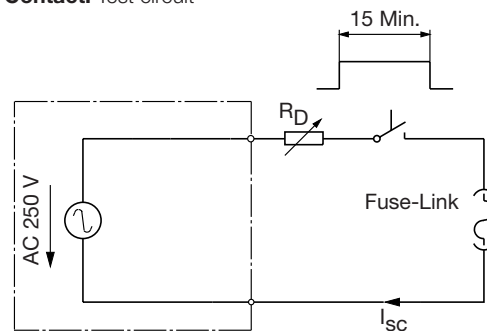
Power induction: Test circuit



Test: The fuse-link in the test circuit AC 300 V / 50 Hz is loaded 5 times with $I_{eff} = 0,5$ A for 200 ms at intervals of 60 sec.

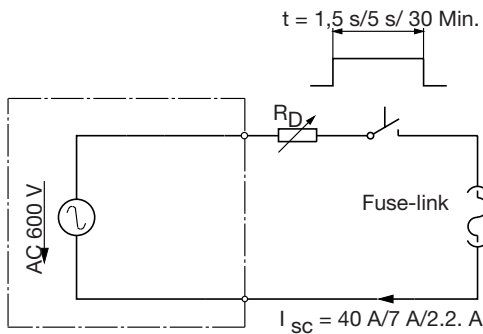
Requirement: The fuse-link shall not interrupt the circuit.

Power Contact: Test circuit



Test: The fuselink in the test circuit AC 250 V / 50 Hz is loaded with the current value I_{SC} stated in the data sheet. The supply voltage is maintained for 15 minutes.

Requirement: The fuse-link shall interrupt the circuit.

2. UL 60950**Test circuit****Test 1: (only TF 600)**

The fuse-link in the test current circuit is loaded with a test current of $I_{SC} = 60 \text{ A}$.
The AC 600 V / 50 Hz source voltage is applied for a total of 1,5 sec.

Requirement: The fuse-link shall interrupt the circuit.

Test 2:

The fuse-link in the test current circuit is loaded with a test current of $I_{SC} = 40 \text{ A}$.
The AC 600 V / 50 Hz source voltage is applied for a total of 1,5 sec.

Requirement: The fuse-link shall interrupt the circuit.

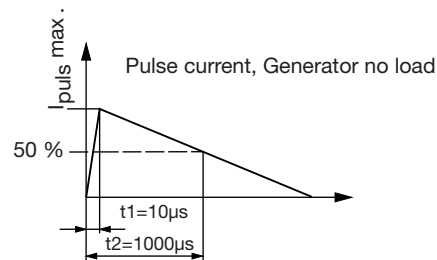
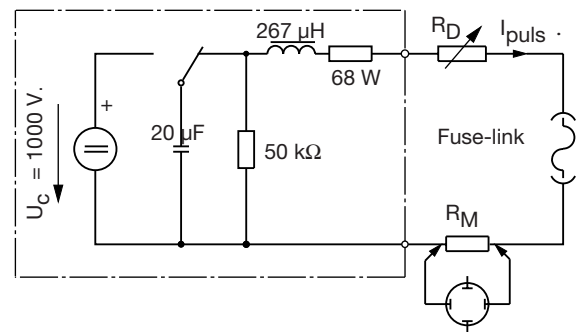
Test 3:

The fuse-link in the test current circuit is loaded with a test current of $I_{SC} = 7 \text{ A}$.
The AC 600 V / 50 Hz source voltage is applied for a total of 5 sec.

Requirement: The fuse-link shall interrupt the circuit.

Test 4

The fuse-link in the test current circuit is loaded with a test current of $I_{SC} = 2,2 \text{ A}$.
The AC 600 V / 50Hz source voltage is applied for at least 30 minutes, or until stable thermal conditions are achieved in the telecom unit or until the fuse-link interrupts the circuit. This test is performed together with the equipment in which the fuse-link is installed.

3. GR 1089 CORE**Test circuit****Test:**

1. The pulse amplitude (generator no-load) is set to 1000 V and the pulse shape to 10 μs / 1000 μs.
2. The pulse current I_{puls} is set to the value $I_{puls \text{ max.}}$ stated in the data sheet with limiting resistor R_D .
3. Test mode: 50 single pulses, at an interval of 60 sec. alternating polarity.

Requirement: The fuse shall not interrupt the circuit.

5) Note: With a charge voltage of $U_C = 1000 \text{ V}$, the standardized pulse generator in Fig. 5 supplies a maximum pulse current $I_{puls} = 14 \text{ A}$, providing the current limiting resistor is $R_D = 0\Omega$. The shunt R_M for the current monitoring has a very low resistance and has no notable influence to the current amplitude. This means that the data sheet current 14 A ⁶⁾ does not represent the maximum permissible pulse amplitude of the fuse-link in question, but the maximum current amplitude which can be supplied by the pulse generator. If a max. current higher than 14 A is to be expected in a circuit, the I^2t - values of the fuse-link can be calculated using the formula $I^2t = 0,72 \times i^2_{\text{peak}} \times t_2$, as a good approximation in order that the selected fuse-link can accept the expected current pulse without interrupting the circuit.

FUSEHOLDERS

Explanations, thermal requirements, selection criteria

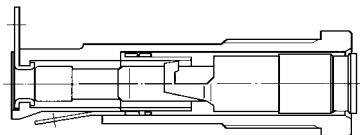
1. Protection against electric shock (against direct contact with live parts), for fuseholders

The assessment of the protection against electric shock assumes that the fuseholder is properly assembled, installed and operated as in normal use, e.g. on the front panel of the equipment.

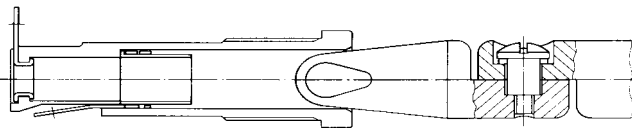
IEC 60127-6 and EN 60127-6 divides into three categories:

Category	Features
PC1	Fuseholders without integral protection against electric shock. They are only suitable for applications where corresponding additional means are provided to protect against electric shock.
PC2	Fuseholders with integral protection against electric shock live part is not accessible: – when the fuseholder is closed – after the fuse carrier (incl. fuse-link) has been removed – either during insertion or removal of the fuse carrier (incl. fuse-link) Compliance is checked by using the standard test finger specified in IEC 60529.
PC3	Fuseholder with enhanced integral protection against electric shock The requirements for this category are the same as those for category PC2, with the exception that the testing is carried out with a rigid test wire of 1 mm diameter according to IEC 60529, table VI, instead of the standard test finger.

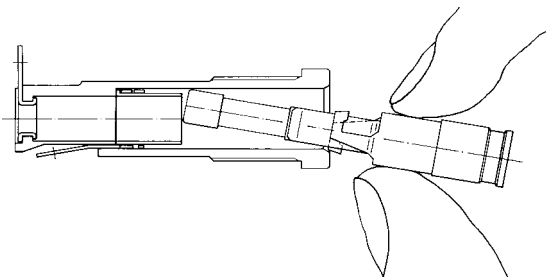
a) Closed fuseholder



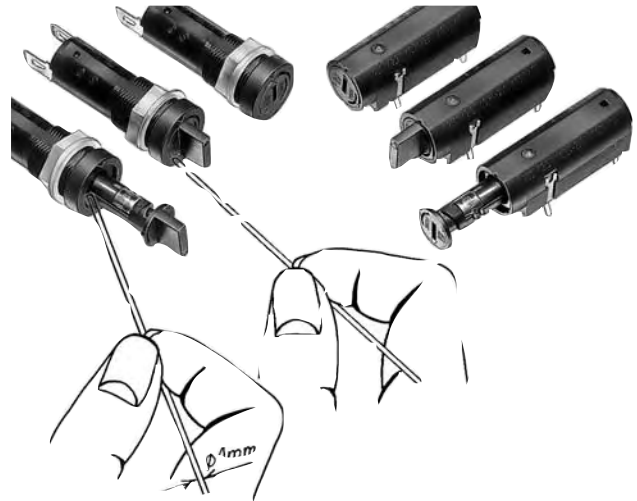
b) When the fuse carrier is removed, no live parts can be touched.



c) During insertion or removal of a fuse-link no live parts can be touched neither through the fuse-link nor the fuse carrier.



Remarks on PC 3



2. Thermal requirements of the fuseholder

2.1. Influencing factors

The design engineer of electrical equipment is responsible for its safety and functioning to humans, animals and real values. Above all, it is his task to make sure that the state of the art as well as the valid national and international standards and regulations be observed.

In view of the safety of electrical equipment the selection of the most suitable fuseholder is of great importance. Among other parameters, one has to make sure that the maximum admissible power acceptance and temperatures defined by the manufacturer are followed. Differing definitions and requirements in the most important standards for fuse-links and fuseholders are time and again origin for the incorrect selection of fuseholders.

To equate the rated current of a fuse-link with the rated current of the fuseholder, may, especially at higher currents, cause high, not admissible temperatures, when the influence of the power dissipation in the contacts of the fuseholder was not taken into consideration.

For a correct selection the following influence factors depending on the application and mounting method, have to be taken into consideration.

It is recommended testing the fuseholder with the chosen fuse-link in the worst case operating condition.

1. Rated power dissipation of the suitable fuse-link.
2. Admissible power acceptance, operating current and temperatures of the suitable fuseholder.
3. Differing ambient air temperature outside and inside of the equipment.
4. Electrical load alternation
5. Long time (> 500 h) operation with load > 0.7 In.
6. Heat dissipation/cooling and ventilation. Heat influence of adjacent components.
7. Length and cross section of the connecting wire.

2.2 Rated current of a fuseholder

The value of current assigned by the manufacturer of the fuseholder and to which the rated power acceptance is referred.

2.3 Rated power dissipation of the fuse-link

(power dissipation at rated current)

See product group "fuse-links", page xx

2.4 Rated power acceptance and admissible temperatures of a fuseholder.

The rated power acceptance of a fuseholder is determined by a standardised testing procedure according to IEC 60127-6. It is intended to be the power dissipation caused by the inserted dummy fuse-link at the rated current of the fuseholder and at an ambient air temperature of $T_{A1} = T_{A2} = 23^\circ\text{C}$ (over a long period). During this test the following temperatures must not be exceeded on the surface of the fuseholder:

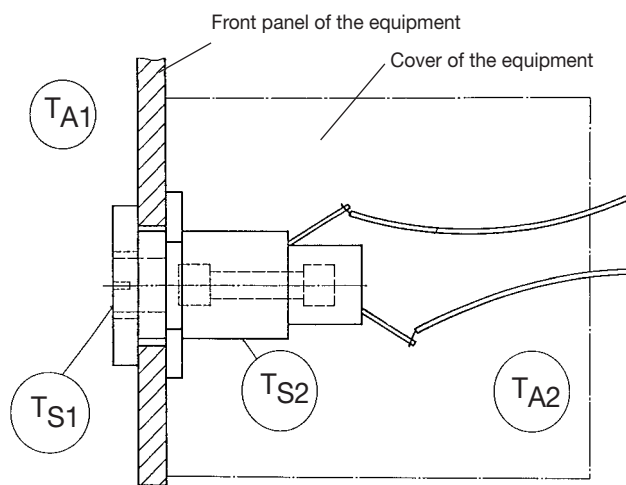
Fuseholder surface area	Maximum allowable temperature measuring points (see figure 1)	°C
1. Accessible parts ¹⁾	T _{S1}	85
2. Inaccessible parts ¹⁾ Insulating parts	T _{S2}	²⁾

NOTES:

¹⁾ When the fuseholder is properly assembled, installed and operated as in normal use, e.g. on the front panel of equipment.

²⁾ The maximum allowable temperature of the used insulating materials corresponds to the Relative Temperature Index (RTI) according to IEC 60216-1 or UL 746 B.

Illustration of temperatures experienced in practice

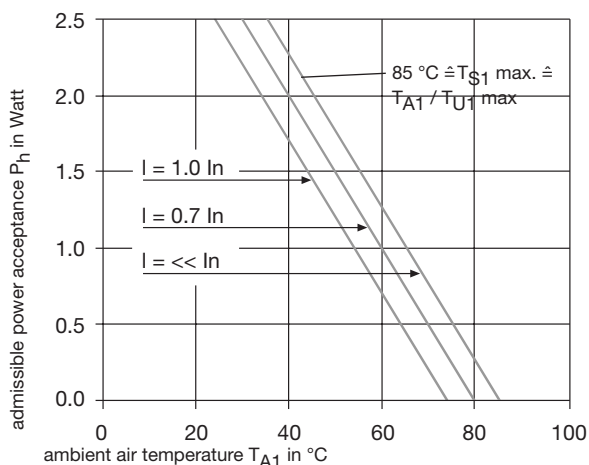


T_{A1} = ambient air temperature, surrounding the equipment
T_{A2} = ambient air temperature in the equipment
T_{S1} = temperature of accessible parts on fuseholder surface
T_{S2} = temperature of inaccessible parts on fuseholder surface

2.5 Correlation between operating current I, ambient air temperature T_{A1} and the power acceptance P_h of the fuseholder.

This correlation is demonstrated by derating curves.

Example of a derating curve



I = operating current of the fuseholder
I_n = rated current of the fuseholder

The derating curves demonstrate the admissible power acceptance of a fuseholder depending on the ambient air temperature T_{A1} for the following fuseholder operating currents: I << I_n, I = 0,7 · I_n and I = 1,0 · I_n. This power acceptance corresponds to the max. admissible power dissipation of a fuse-link.

The corresponding values for other operating currents can be interpolated between the existing curves or calculated as follows:

$$P_h = P_o - P_c = P_o - (R_c \cdot I^2)$$

P_h = admissible power acceptance in watt of the fuseholder, depending on T_{A1}

P_o = admissible power acceptance in watt of a fuseholder at I << I_n, depending on T_{A1}. The values can be taken from the derating curve I << I_n of the corresponding fuseholder.

P_c = power dissipation in watt in the fuseholder contacts at the operating current in ampere.

I = operating current in ampere of the fuseholder.

R_c = contact resistance in ohm between the fuseholder terminals according to SCHURTER's catalogue.

3. Selection of a suitable fuseholder with respect to the power acceptance at the corresponding ambient air temperature.

Summary

The adherence to the limits, indicated by SCHURTER, in particular the power acceptance limits at the corresponding ambient air temperatures and mounting conditions of the fuseholder, is important for the safety of the product. It is therefore necessary to observe the following two steps:

Step 1

Selection of the fuseholder based on the power acceptance P_h at operating current I and maximum ambient air temperature T_{A1}.

$$P_f \leq P_h = P_o - P_c = P_o - (R_c \cdot I^2)$$

P_f = rated power dissipation in watt of the fuse-link, calculated from (I_n · ΔU), whereas:

I_n = rated current in ampere of the fuse-link

ΔU = voltage drop in volt at I_n; values according to SCHURTER's catalogue.

P_h, P_o, P_c, R_c = see pos. 2.5

Step 2

The reduction of the power acceptance of the fuseholder (from step 1) based on the different conditions at the mounting place etc. have to be determined by the design engineer responsible.

Examples:

- ambient air temperature is considerably higher inside of an equipment than outside (T_{A2} > T_{A1})
- cross-section of the conductor, unfavourable heat dissipation
- heat influence of adjacent components

Therefore, temperature measurements on the appliance under normal and faulty conditions are absolutely necessary.

4. Example

4.1 What's given?

- Fuse-link FSF 0034.1523, rated current I_n = 5 A.
Voltage drop ΔU at I_n = 80 mV, typ.
Rated power dissipation P_f = (I_n · ΔU) = (5 A · 0,08 V) = 0,4 W.
- Fuseholder FEF 0031.1081, rated current I_n = 10 A
Rated power acceptance at T_{A1} 23 °C = 3,2 W.

- Ambient air temperature = 50 °C.
Admissible power acceptance P_h at an ambient air temperature T_{A1} 50 °C according to the derating curve:

$$P_h \text{ at } \begin{array}{l} I \ll I_n \\ I = 0,7 \cdot I_n = 7 \text{ A} \\ I = 1,0 \cdot I_n = 10 \text{ A} \end{array} = \begin{array}{l} 2,5 \text{ W} \\ 2,2 \text{ W} \\ 2 \text{ W} \end{array}$$

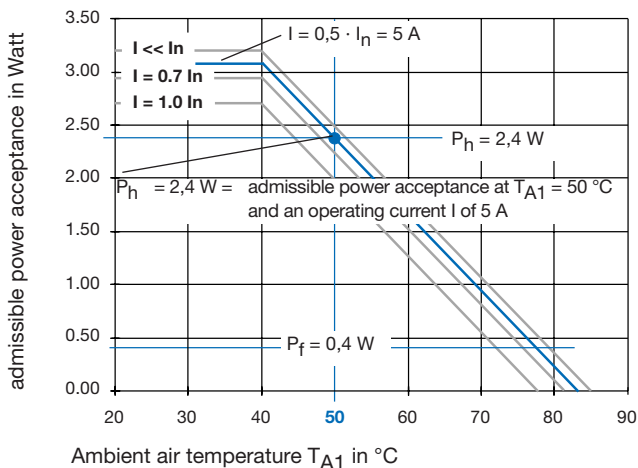
- Contact resistance $R_C = 5 \text{ m}\Omega$

4.2 What is the admissible power acceptance P_h of the fuseholder?

Solutions

- 4.2.1 The result of the interpolation for the rated current $I = 5 \text{ A}$ is a P_h of approx. 2,4 W.
- 4.2.2 The result of the calculation is
 $P_h = P_O - (R_C \cdot I^2) = 2,5 - (0,005 \cdot 5^2) = 2,37 \text{ W} \approx 2,4 \text{ W}$.

Derating curves of the fuseholder, type FEF, rated current $I_n = 10 \text{ A}$



5. Standards for fuseholders

IEC 60127-6	Fuseholders for miniature fuse-links.
NF C93-436	Fuseholders for professional purposes
UL 512	Fuseholders
CSA C22.2 no. 39	Fuseholder assemblies

IEC: International Electrotechnical Commission
 UL: Underwriters Laboratories Inc. USA
 CSA: Canadian Standards Association
 NF: French Standard

4.4 Verification of the thermal requirements

Step 1

The following condition must be fulfilled:

$P_f \leq P_h$ ©this means: the rated power dissipation P_f of the fuse-link must be less/equal than the admissible power acceptance P_h of the fuseholder.

$$P_f = 0,4 \text{ W}; P_h = 2,4 \text{ W at } T_{A1} = 50 \text{ °C}$$

Step 2

To consider the different conditions at the mounting place according to step 1, see page 141.

4.5 Conclusion (without consideration of step 2)

- The value P_f is less than P_h . The condition according to formula © is fulfilled. It has been chosen a suitable fuseholder.
- If the value P_f were greater than P_h the condition wouldn't be fulfilled. In that case, do select another fuseholder with a higher power acceptance or change the thermal conditions at the fuseholder mounting place.

6. Explanation to the main fuseholder standards

As mentioned in section 2, the most relevant standards define rated current and rated power acceptance differently. This lead in the past often to confusion or even to a wrong fuseholder design-in.

For example the standard UL 512 does not define a maximum power acceptance value, but sets a certain value of temperature rise for the fuseholder. For this reason the marked amperage values on the fuseholder, defined by UL and CSA, are not suggested to be used except in special cases.

In order to eliminate such confusion, SCHURTER new decided to define the rated current and rated power acceptance values according to IEC 60127-6 and EN 60127-6.

The most important definitions are to be found in section 2.

Conclusion

- The high UL and CSA current ratings are replaced by more realistic rated currents defined by SCHURTER.
- Focused on the new fuseholder standard IEC 60127-6 and EN 60127-6, the power acceptance of several fuseholders had to be reduced.
- The design-in procedure and in particular to choose the correct fuseholder in terms of thermal requirements (refer to section 2–4) is now made much easier.

Your advantages:

- More security for your equipment**
- Faster and much easier selection of the correct fuseholder**

PTC-CIRCUIT PROTECTION

When it comes to Polymeric Positive Temperature Coefficient (PPTC) circuit protection, you now have a choice. If you need a reliable source, look to SCHURTER Resettable Overcurrent Protectors.

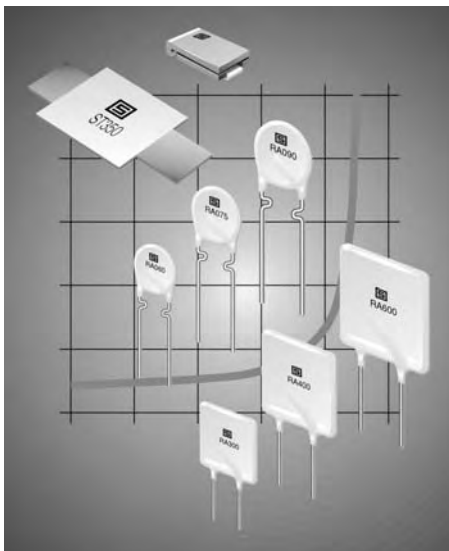
SCHURTER'S PTC products are made from a conductive plastic formed into thin sheets, with electrodes attached to either side. The conductive plastic is manufactured from a non-conductive crystalline polymer and a highly conductive carbon black. The electrodes ensure even distribution of power through the device, and provide a surface for leads to be attached or for custom mounting.

The phenomenon that allows conductive plastic materials to be used for resettable overcurrent protection devices is that they exhibit a very large non-linear Positive Temperature Coefficient (PTC) effect when

heated. PTC is a characteristic that many materials exhibit whereby resistance increases with temperature.

What makes the SCHURTER PTC conductive plastic material unique is the magnitude of its resistance increase.

At a specific transition temperature, the increase in resistance is so great that it is typically expressed on a log scale.

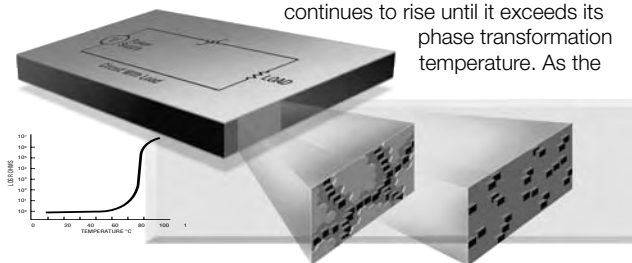


HOW SCHURTER RESETTABLE OVERCURRENT PROTECTORS WORK

The conductive carbon black filler material in the PTC fuse device is dispersed in a polymer that has a crystalline structure. The crystalline structure densely packs the carbon particles into its crystalline boundary so they are close enough together to allow current to flow through the polymer insulator via these carbon "chains".

When the conductive plastic material is at normal room temperature, there are numerous carbon chains forming conductive paths through the material.

Under fault conditions, excessive current flows through the PTC fuse device. I²R heating causes the conductive plastic material's temperature to rise. As this self heating continues, the material's temperature continues to rise until it exceeds its phase transformation temperature. As the



material passes through this phase transformation temperature, the densely packed crystalline polymer matrix changes to an amorphous structure. This phase change is accompanied by a small expansion. As the conductive particles move apart from each other, most of them no longer conduct current and the resistance of the device increases sharply.

The material will stay "hot", remaining in this high resistance state as long as the power is applied. The device will remain latched, providing continuous protection, until the fault is cleared and the power is removed. Reversing the phase transformation allows the carbon chains to re-form as the polymer re-crystallizes. The resistance quickly returns to its original value.

PRODUCT SELECTION

To select the correct SCHURTER PTC circuit protection device, complete the information listed below for the application, and then refer to the resettable overcurrent protector data sheets.

1. Determine the normal operating current:
_____ amps
2. Determine the maximum circuit voltage
(V_{max}): _____ volts
3. Determine the fault current (I_{max}):
_____ amps
4. Determine the operating temperature range:
Minimum Temperature: _____ °C
Maximum Temperature: _____ °C
5. Select a product family so that the maximum rating for V_{max} and I_{max} is higher than the maximum circuit voltage and fault current in the application.
6. Using the I_{hold} vs. Temperature Table on the product family data sheet, select the SCHURTER PTC device at the maximum operating temperature with an I_{hold} greater than or equal to the normal operating current.
7. Verify that the selected device will trip under fault conditions by checking in the I_{trip} table that the fault current is greater than I_{trip} for the selected device, at the lowest operating temperature.
8. Order samples and test in application.

APPLICATIONS

The benefits of SCHURTER Resettable Overcurrent Protectors are being recognized by more and more design engineers, and new applications are being discovered every day.

The use of polymeric fuses has been widely accepted in the following applications and industries:

- Personal computers
- Laptop computers
- Personal digital assistants
- Transformers
- Small and medium electric motor
- Audio equipment and speakers
- Test and measurement equipment
- Security and fire alarm systems
- Medical electronic
- Personal care products
- Point-of-sale equipment
- Industrial controls
- Automotive electronics and harness protection
- Marine electronic
- Battery-operated toys
- Telecom Electronics

ARGENTINA

Americas
E. Marcotegui & Co.
 Miguelettes 1644
 1426 Buenos Aires
 Tel: ++54 +11 4786 4083
 Fax: ++54 +11 4784 5370
emarcotegui@emyco.com.ar

AUSTRALIA

Australia
Farnell InOne
 72 Ferndell St.
 2162 Chester Hill, NSW
 Tel: 1300 361 005
 Fax: 1300 361 225
ausales@farnellinone.com
www.farnellinone.com.au

Australia
Fastron Technologies Pty. Ltd.
 25 Kingsley Close, Rowville
 3178 Victoria
 Tel: ++61 +3 9763 5155
 Fax: ++61 +3 9763 5166
sales@fastron.com.au
www.fastron.com.au

Australia
Koloona Industries Pty. Ltd.
 Unit 2, 17 Pembury Road, Minto NSW 2566
 Tel: ++61 +2 9820 52 33
 Fax: ++61 +2 9820 52 44
admin@koloona.com.au
www.koloona.com.au

Australia
RS Components
 Tel: ++1 300 656 636
www.rswwww.com

AUSTRIA

Europe
Burisch Elektronik-Bauteile GmbH
 Leopoldauer Strasse 29
 1210 Wien
 Tel: ++43 +1 277 200
 Fax: ++43 +1 277 206
info@beb.co.at
www.beb.co.at

BELGIUM

Europe
Alcom Electronics B.V.
 Singel 3
 2550 Kontich
 Tel: ++32 +3 458 30 33
 Fax: ++32 +3 458 31 26
info@alcom.be
www.alcom.be

BRAZIL

Americas
Fusi-Bras
 Rua Barretos 138,
 Alto da Moóca
 CEP 03184-090 Sao Paulo
 Tel: ++55 +11 6601 3330
 Fax: ++55 +11 6601 4308
fusibras@fusibras.com.br
www.fusibras.com.br

BULGARIA

Europe
Comet Electronics
 16, Tsar Samuil Str.
 1000 Sofia
 Tel: ++359 +2 9155 8000
 Fax: ++359 +2 9540 384
office@comet.bg
www.comet.bg

CANADA

Americas
Allied Electronics
 1701 Woodward St, Ste 108
 ON K2C 0R4 Ottawa
 Tel: ++1 6132 281 964
 Fax: ++1 6132 288 006
www.alliedelec.com

Americas
Birde Marketing Inc.
 111 Esna Park Dr., Unit 1
 Ont. L3R1 H2 Markham
 Tel: ++1 905 4777 722
 Fax: ++1 905 4777 813
toronto@birde.ca
www.birde.ca

Americas

Components Distributors, Inc.
 1938 Fairbanks Ave
 ON K1H 5Y3 Ottawa
 Tel: ++1 613 523 2634
 Fax: ++1 613 523 1313
www.cdiweb.com

Americas

Future Electronics
 237 Hymus Blvd.
 QC H9R 5C7 Pointe Claire
 Tel: ++1 514 694 7710
 Fax: ++1 514 695 3707
www.futureelectronics.com

Americas

Irwin Industrial Agencies
 50 E Beaver Creek Road
 ON L4B 1G6 Richmond Hill
 Tel: ++1 905 889 9100
 Fax: ++1 905 886 1861
www.irwin-ind.com

Americas

Newark InOne
 1870 Sources Blvd., Suite 300
 QC L5T 2E7 Pointe Claire
 Tel: ++1 514 426 6336
 Fax: ++1 514 426 6327
www.newarkinone.ca

Americas

Newark InOne
 331 Consortium Court
 ON N6E 2S8 London
 Tel: ++1 519 685 4280
 Fax: ++1 519 685 7104
www.newarkinone.ca

Americas

Newark InOne
 6375 Dixie Road, Suite 202
 ON L5T 2E7 Mississauga
 Tel: ++1 905 670 2888
 Fax: ++1 905 670 1019
www.newarkinone.ca

Americas

PS Components
 601 Magnetic Dr. Unit 34
 ON M3J 3J2 Downsview
 Tel: ++1 416 665 9546
 Fax: ++1 416 665 9594
www.pscomponents.com

Americas

Sager Electronics
 151 Superior Blvd, Suite 22
 ON L5T 2L Mississauga
 Tel: ++1 800-SAGER-800 / ++1 888 724 3736
www.sager.com

Americas

Wes-Garde Components Group, Inc.
 6740 Davand Drive, Unit #2
 ON L5T 2K9 Mississauga
 Tel: ++1 905 670 3100
 Fax: ++1 905 670 3107
www.wesgarde.com

CHINA (INCL. HONG KONG SAR)

Asia

Chi Lick Schurter Ltd.
 7/F., Lin Fung Centre, 184-186 Texaco Road
 Tsuen Wan, N.T.
 Hong Kong SAR
 P. R. China
 Tel: ++852 +2408 77 98
 Fax: ++852 +2408 70 01
fuse@chilickschurter.com
www.chilickschurter.com

Asia

Farnell InOne
 Tel: ++852 2268 9888
www.farnellinone.com

Asia

Future Electronics
 Tel: ++852 2420 6238
www.futureelectronics.com

Asia
Qualtek Electronics Ltd.
 Room 1608-1613, Park-In Commercial Centre
 56 Dundas Street, Kowloon
 Hong Kong SAR
 P. R. China
 Tel: ++852 +2780 13 39
 Fax: ++852 +2780 82 29
info@qualtekhk.com
www.qualtekhk.com

Asia
RS Components
 Tel: ++852 2421 9898
www.rswwww.com

Asia
Schurter Asia Pacific HQ Contact Office
 Level 21, HSBC Tower, 101 Yincheng East Road
 Pudong, Shanghai 200120
 P. R. China
 Tel: ++8621 +2890 3091
 Fax: ++8621 +2890 3131
info@schurter.com.cn
www.schurter.com

Asia
Schurter Electronics China (Ltd.)
 Songming Industrial Park, Gong Ming Town
 Baoan District, Shenzhen City
 Guangdong 518106
 P. R. China
 Tel: ++86 755 2994 0066
 Fax: ++86 755 2994 0099
info@schurter.com.cn
www.schurter.com

CROATIA

Europe
Elgo d.o.o.
 Selska c. 18
 10000 Zagreb
 Tel: ++385 +1 370 1798
 Fax: ++385 +1 377 8415
elgo@zg.tel.hr

CZECH REPUBLIC

Europe
ENIKA spol. s r.o.
 Nádražní 609
 509 01 Nová Paka
 Tel: ++420 +493 773 311
 Fax: ++420 +493 773 322
enika@enika.cz
www.enika.cz

Europe
ESB Blansko - elektronické součástky s.r.o.
 Svitavská 23/872
 678 01 Blansko
 Tel: ++420 +51 641 8726
 Fax: ++420 +51 641 1988
esb@esb.cz
www.esb.cz

Europe
GM Electronic, spol. s r.o.
 Karlínské náměstí 6
 186 00 Prag 8
 Tel: ++420 +224 812 606
 Fax: ++420 +222 321 194
gm@gme.cz
www.gme.cz

Europe
Schurter s.r.o.
 Malá Skála 190
 46822 Železný Brod
 Tel: ++42 +0483 392 080
 Fax: ++42 +0483 392 334
firma@schurter.cz
www.schurter.com

DENMARK

Europe
ACTE Denmark A/S
 Skelmarksvej 4
 2605 Broendby
 Tel: ++45 +46 900 400
 Fax: ++45 +46 900 500
bc-electronics@acte.com
www.actenc.com

FINLAND

Europe
Farnell InOne
www.farnellinone.com
 Europe
Honeywell / Sensing & Control
 Ruukintie 8
 02330 Espoo
 Tel: ++358 +207 522 641
 Fax: ++358 +207 522 694
controlproducts.finland@honeywell.com
www.honeywell.fi

FRANCE

Europe
Comarel
 136, rue du 18 Juin ZA des Métiers
 95120 Ermont
 ++33 +1 3413 7280
 ++33 +1 3414 0018
www.comarel.fr

Europe
Corel
 Zone Industrielle
 P.O.Box 24
 45270 Bellegarde

Europe
Del
 22, rue des Dames
 P.O. Box 63
 78340 Les Clayes Sous Bois
 Tel: ++33 +1 3956 1018

Europe
Direct
 151-153, rue de Constantine
 P.O. Box 4012
 76021 Rouen Cedex
 ++33 +2 3210 2343
 ++33 +2 3588 5081
www.direct.fr

Europe
Farnell InOne
 745, avenue de l'Europe
 P.O. Box 426
 69654 Villefranche sur Saone
 ++33 +4 74 68 99 99
 ++33 +4 7468 9990
www.farnellinone.fr

Europe
Groupe E.T.N.
 5, rue Nicephore Niepce
 P.O. Box 278
 76305 Sotteville-les-rouen cedex
 Tel: ++33 +2 3210 2343

Europe
Mateleco
 ZAI des Bruyères 3, Avenue Le Verrier
 78192 Trappes Cedex
 Tel: ++30 +1 3013 7380
 ++33 +1 3013 7399
<http://mateleco.online.fr>

Europe
Radialex
 109, rue du 1er Mars 1943
 69612 Villeurbanne Cedex
 ++33 +4 7235 3172
 ++33 +4 7236 3336
www.radialex.fr

Europe
Radiospares Composants
 Rue Norman King
 P.O. Box 453
 60000 Beauvais
 ++33 +3 4410 1500
 0825 34 5000
www.radiospares.fr

Europe
Rutronik SA
 6, Mail de l'Europe
 78170 La Celle Saint Cloud
 ++33 +1 3008 3300
 ++33 +1 3082 2063
www.rutronik.fr

GERMANY

Europe

Schurter S.A.S.

Route de Châteauvillain
52210 Arc en Barrois
Tel: ++33 +3 2502 5049
Fax: ++33 +3 2502 5657
contact@schurter.fr
www.schurter.com

Europe

Williamson Electronique

6, rue Georges Leclanché
44984 Sainte Luce Cedex
++33 +2 4018 8000
++33 +2 4018 8028
www.willelec.com

Europe

Beck GmbH & Co. Elektronik Bauelemente KG

Eltersdorfer Straße 7
90425 Nürnberg
Tel: ++49 +911 934 080
Fax: ++49 +911 934 0828
info@beck-elektronik.de
www.beck-elektronik.de

Europe

Bürklin OHG Düsseldorf

Höherweg 245
40231 Düsseldorf
Tel: ++49 +211 906 7110
Fax: ++49 +211 906 7125
info@buerklin.de
www.buerklin.de

Europe

Bürklin OHG München

Schillerstr. 41
80336 München
Tel: ++49 +89 558 75110
Fax: ++49 +89 558 75421
info@buerklin.de
www.buerklin.de

Europe

EVG Electro-Vertriebs- Gesellschaft Martens GmbH & Co. KG

Trompeterallee 244-246
41189 Mönchengladbach
Tel: ++49 +2166 550 80
Fax: ++49 +2166 550 890
info@evg.de
www.evg.de

Europe

Ettinger GmbH

Ottostraße 5
85649 Hofolding
Tel: ++49 +8104 662 30
Fax: ++49 +8104 662 399
info@ettinger.de
www.ettinger.de

Europe

Farnell InOne GmbH

Keltenring 14
82041 Oberhaching
Tel: ++49 +8961 393 939
www.farnell.com

Europe

Ferdinand Merschjohann

Menkebachweg 3
33335 Gütersloh
Tel: ++49 +5241 904 620
Fax: ++49 +5241 904 622
contact@merschjohann-produkte.de
www.merschjohann-produkte.de

Europe

JK-electronic GmbH

Am Waldrand 60
15711 Zessen
Tel: ++49 +3375 920 975
Fax: ++49 +3375 920 382
m.knebel@jkelectronic.de
www.jkelectronic.de

Europe

Mütron

P.O. Box 1353
28819 Achim
Tel: ++49 +421 305 60
Fax: ++49 +421 305 6119
info@muetron.de
www.muetron.de

Europe

Mütron

Theodor-Barth Straße 30
28832 Achim
info@muetron.de
www.muetron.de

Europe

RS Components GmbH

Hessenring 13b
64546 Mörfelden-Walldorf
Tel: ++49 +6105 401 234
Fax: ++49 +6105 401 100
rs-gmbh@rs-components.com
www.rsonline.de

Europe

Reichelt Elektronik

Elektronikring 1
26452 Sande
Tel: ++49 +4422 955 333
Fax: ++49 +4422 955 111
info@reichelt.de
www.reichelt.de

Europe

Schlöder GmbH

Hauptstrasse 71
75210 Keltern-Weiler
Tel: ++49 +723 693 960
Fax: ++49 +723 693 9690
Info@schloeder-emv.de
www.schloeder-emv.de

Europe

Schukat Electronic

Daimlerstr. 26
40789 Monheim
Tel: ++49 +2173 950 730
Fax: ++49 +2173 950 739
info@schukat.com
www.schukat.com

Europe

Schurter GmbH

Elsässer Strasse 3
79346 Endingen
Tel: ++49 +7642 6820
Fax: ++49 +7642 8820
info@schurter.de
www.schurter.com

GREECE

Europe

Dion Giannikos & Co.

4, Salaminos Str.
141 23 Likovrissi, Athen
Tel: ++30 +2 10 2851 772
Fax: ++30 +2 10 2851 771
info@giannikos.com
www.giannikos.com

HUNGARY

Europe

Farnell InOne

Tel: ++36 +13 199 805
www.farnellinone.com

Europe

Future Electronics

Tel: ++36 +12 240 510
www.futureelectronics.com

Europe

World Components

Ipari és Kereskedelmi Kft.
Gardonyi u. 8
9200 Mosonmagyaróvár
Tel: ++36 +96 578 070
Fax: ++36 +96 578 077
woco@mail.mata.hu
www.woco.hu

INDIA	Asia Schurter Electronics (India) Pvt. Ltd. Plot 7, Road 5, Sardar Industrial Estate, Ajwa Road Vadodara 390 019 Gujarat Tel: ++91+265 256 94 59 Fax: ++91+265 256 94 48 info@schurter.co.in www.schurter.com	Asia Schurter Asia Pacific HQ Contact Office 21/F Seoul Finance Center 84 Taepyungro 1-ga, Chung-Gu Seoul 100-101 Tel: ++822 +2 3782 48 91 Fax: ++822 +2 3782 48 92 korea@schurter.com.sg www.schurter.com
INDONESIA	Asia P.T. Dayatama Senasataya Jalan Kepu Timur 219 10620 Jakarta Tel: ++62 +21 250 0239 Fax: ++62 +21 351 8347 harry.wijaya@schurter.com.sg	MALAYSIA Asia Farnell InOne Tel: ++60 +3 7873 8000 www.farnellinone.com
ISRAEL	Europe A.M. Components (2005) Ltd. 1, Hanofar Street 43662 Raanana Tel: ++972 9 745 8880 Fax: ++972 9 745 8881 sales@amcomp.co.il www.amcomp.co.il Europe Future Electronics Tel: ++972 +9 970 1414 www.futureelectronics.com	Asia Future Electronics Tel: ++60 +3 7803 7133 www.futureelectronics.com Asia RS Components Tel: ++60 +3 5032 1133 www.rswwww.com
ITALY	Asia Kevin-Schurter S.p.a Via Venezia Giulia 10 20157 Mailand Tel: ++39 +02 3320 0914 Fax: ++39 +02 3320 0917 info@kevin.it www.schurter.com	MEXICO Americas Allied Electronics Tel: ++1 915 593 6291 / ++1 956 548 1129 www.alliedelec.com
JAPAN	Asia Asuka Denshi Inc. 5-2-41 Toyookas Iruma-shi Saitama-ken 358-0003 Japan Tel: ++81 +42 965 2555 Fax: ++81 +42 965 2481 aska.cop@chive.ocn.ne.jp	Americas Avnet, Inc. Tel: ++1 800 408 8353 / ++1 480 643 5691 / ++523 33 134 2300 www.avnet.com
KOREA	Asia Schurter K. K. 1302 Shinsen cho 24-1 Shibuya ku 150-0045 Tokyo Tel: ++81 +3 5465 2062 Fax: ++81 +3 3441 5004 info@schurter.co.jp www.schurter.com	Americas Carlton-Bates, Co. Tel: ++1 888 280 7706 / ++81 8311 4448 www.carlton-bates.com
KOREA	Asia Daesung Electronics Co. Ltd. A-904/9F, Chung Ang, Circulation Complex 1258, Kurbon-Dong, Kuro-ku Seoul 152-721 Tel: ++82 +2 2616 47 82 Fax: ++82 +2 2616 47 84 common@n-daesung.co.kr www.n-daesung.co.kr Asia Future Electronics Tel: ++82 +2 555 6736 www.futureelectronics.com	Americas Millenium Sales, Inc. Av. Mariano Otero #3431, 5to Piso - 1 Guadalajara, Jal CP 45060 Mexico Tel: ++55 +33 3818 4354 Fax: ++55 +33 3818 4349 carlos@millsales.com www.millsales.com Americas Mouser Electronics Tel: ++1 800 346 6873 www.mouser.com/schurter
KOREA	Asia H&BL #1204 Rosedale Officetel 724, Suseo-Dong, Gangnam-Gu Seoul 135-744 Tel: ++82 +2 3413 0144 Fax: ++82 +2 3413 0147 electrocom@empal.com	NETHERLANDS Europe Alcom Electronics B.V. Rivium 1e straat 52 2909 LE Capelle a/d IJssel Tel: ++31 +10 288 2500 Fax: ++31 +10 288 2525 info@alcom.nl www.alcom.nl
		Europe Farnell InOne Tel: ++31 +30 241 7373 www.farnellinone.com

	Europe Future Electronics Tel: ++31 +76 544 4888 www.futureelectronics.com Europe RS Components Tel: ++31 +23 516 6555 www.rswwww.com		Europe Semicon Sp. z.o.o. ul. Zwolenska 43 04-761 Warszawa Tel: ++48 +22 615 7371 Fax: ++48 +22 615 7375 info@semicon.com.pl www.semicon.com.pl
NEW ZEALAND	Australia Farnell InOne PO Box 74-342 Market Road Auckland Tel: 800 90 8080 Fax: 800 90 8081 nzsales@farnellinone.com www.farnellinone.co.nz Australia Future Electronics Tel: ++800 888 780 www.futureelectronics.com Australia Schurter (S) Pte. Ltd. 7500A Beach Road # 15-311/312 The Plaza 199591 Singapur Tel: ++65 +6291 21 11 Fax: ++65 +6298 41 33 info@schurter.com.sg www.schurter.com	PORTUGAL	Europe Farnell InOne Tel: ++45 445 36644 www.farnellinone.com Europe Future Electronics Tel: ++45 7640 8764 www.futureelectronics.com Europe RS Components Tel: ++45 3816 9900 www.rswwww.com Europe Redislogar-Portugal S. A. Rua das Fiskas, 442 Cascaisstock-Arm 2, Alcoitão 2649-505 Alcabideche Tel: ++351 +21 460 7920 Fax: ++351 +21 460 0111 redislogar@redislogar.pt www.redislogar.pt
NORWAY	Europe EG Components Norway AS Hovfaret 17B 0275 Oslo Tel: ++47 +23 25 46 00 Fax: ++47 +23 25 46 01 info@egcomponents.no www.egcomponents.no Europe Farnell InOne Tel: ++47 800 14670 www.farnellinone.com Europe Future Electronics Tel: ++47 229 058 00 www.futureelectronics.com Europe RS Components Tel: ++47 5275 4040 www.rswwww.com	ROMANIA	Europe Comet Electronics S.R.L. Str. Grigore Ionescu Nr. 94 Bukarest Tel: ++40 +2124 320 90 Fax: ++40 +2124 340 90 office@comet.srl.ro www.comet.srl.ro
		SINGAPORE	Asia Farnell InOne Tel: ++65 +6788 0200 www.farnellinone.com Asia Future Electronics Tel: ++65 +6479 1300 www.futureelectronics.com Asia RS Components Tel: ++65 +6865 3433 www.rswwww.com Asia Schurter (S) Pte. Ltd. Asia Pacific HQ 7500A Beach Road 199591 # 15-311/312 The Plaza Singapur Tel: ++65 +6291 21 11 Fax: ++65 +6298 41 33 info@schurter.com.sg www.schurter.com
PHILIPPINES	Asia Farnell InOne Tel: ++63 +289 23883 www.farnellinone.com Asia Future Electronics Tel: ++63 +280 75092 www.futureelectronics.com Asia RS Components Tel: ++63 +288 84033 www.rswwww.com Asia Schurter (S) Pte. Ltd. 7500A Beach Road # 15-311/312 The Plaza 199591 Singapur Tel: ++65 +6291 21 11 Fax: ++65 +6298 41 33 info@schurter.com.sg www.schurter.com	SLOVAKIA	Europe ESB Blansko - elektronické součástky s.r.o. Svitavská 23/872 678 01 Blansko Tel: ++420 +51 641 8726 Fax: ++420 +51 641 1988 esb@esb.cz www.esb.cz
POLAND	Europe only for Input Systems Euro-Elektronika Sp. z o.o. ul. Marymoncka 71/13 01-802 Warszawa Tel: ++48 +22 817 8022 Fax: ++65 +22 864 1949 info@euroelektronika.pl www.euroelektronika.pl	SLOVENIA	Europe Elgo d.o.o. Selska c. 18 10000 Zagreb Tel: ++385 +1 370 1798 Fax: ++385 +1 377 8415 elgo@zg.tel.hr

SOUTH AFRICA

Africa

Retron CC

P.O. Box 39448
2018 Bramley
Tel: ++27 +11 786 0553
Fax: ++27 +11 440 8275
info@retron.co.za
www.retron.co.za

SPAIN

Europe

RS Electronics

Tel: ++1 800 366 7750
www.rselectronics.com

Europe

Redislogar S. A.

c/Lanzarote No.2
Poligono Industrial Norte
28700 San Sebastian de los Reyes (Madrid)
Tel: ++34 +91 659 0063
Fax: ++34 +91 659 1436
redislogar@redislogar.es
www.redislogar.es

SWEDEN

Europe

Acte AB

P.O. Box 4115
171 Solna
Tel: ++46 +84 452 800
Fax: ++46 +89 826 19
<http://www.acte.se>

Europe

Arrow Nordic Comp. AB

P.O. Box 67
164 94 Kista
Tel: ++46 +85 626 5500
Fax: ++46 +85 626 5750
<http://www.arrowne.com>

Europe

Bejoken AB

P.O. Box 9503
200 39 Malmö
Tel: ++46 +40 949 400
Fax: ++46 +40 949 900
<http://www.bejoken.se>

Europe

Elfa AB

175 80 Järfälla
Tel: ++46 +85 809 4100
Fax: ++46 +85 809 4302

Europe

Modern Elteknik AB

P.O. Box 22100
400 72 Göteborg
Tel: ++46 +31 653 700
Fax: ++46 +31 229 963
<http://www.modern-elteknik.se>

Europe

Schurter Nordic AB

Edsvallabacken 12
Box 169
12323 Farsta
Tel: ++46 +8 447 3560
Fax: ++46 +8 605 4717
info@schurter.se
www.schurter.com

Europe

Selga AB

P.O. Box 103
125 23 Älvsjö
Tel: ++46 +85 562 1300
Fax: ++46 +85 562 1360

Europe

Solar AB

P.O. Box 311
401 25 Göteborg
Tel: ++46 +31 636 219
Fax: ++46 +31 626 231

Europe

Svenska Elkjedan AB

P.O. Box 3
334 2 Anderstorp
Tel: ++47 +37 119 300
Fax: ++46 +37 119 325

Europe

Westcomp AB

P.O. Box 13067
402 52 Göteborg
Tel: ++46 +31 388 9060
Fax: ++46 +31 214 755

SWITZERLAND

Europe

Abydos Electronic GmbH

Gewerbstrasse 11
8162 Steinmaur
Tel: ++41 +1 854 70 40
Fax: ++41 +1 853 32 58

Europe

Distrelec AG

Grabenstrasse 6
8606 Nänikon
Tel: ++41 +1 944 99 11
Fax: ++41 +1 944 99 88
info@distrelec.com
www.distrelec.com

Europe

Elcomp AG

Quellenstrasse 2
8610 Uster
Tel: ++41 +1 941 47 44
Fax: ++41 +1 940 10 39
elcomp@swissonline.ch
www.elcomp.ch

Europe

Grieder Bauteile AG

4002 Basel
Tel: ++41 +61 271 5763
Fax: ++41 +61 271 5905
griederbauteile@datacomm.ch

Europe

Grieder Bauteile AG

Reuslistrasse 62
4450 Sissach
Tel: ++41 +61 976 9595
Fax: ++41 +61 971 3338
griederbauteile@datacomm.ch

Europe

Jaeger AG

Murtenstrasse 350
3027 Bern
Tel: ++41 +31 326 3030
Fax: ++41 +31 326 3040
mail@jaegerag.ch
www.jaegerag.ch

Europe

Meierhofer AG

Ob. Bahnhofstrasse
5507 Mellingen
Tel: ++41 +56 48190 00
Fax: ++41 +56 48190 01
info@meierhofer.ch
www.meierhofer.ch

Europe

Mel SA

via ai Monti
6600 Locarno
Tel: ++41 +91 751 2024
Fax: ++41 +91 751 6940

Europe

Milgary

Allmendstrasse 28
2562 Port
Tel: ++41 +32 331 2064
Fax: ++41 +32 331 1359
info@milgray.ch
www.milgray.ch

Europe

Radio Matériel SA

av. des Baumettes 21
1020 Renens VD
Tel: ++41 +21 635 1551
Fax: ++41 +21 635 2035
info@radiomaterial.ch

Europe
SCHURTER AG Mendrisio
 Via San Martino 20
 6850 Mendrisio
 Tel: ++41 +91 640 07 00
 Fax: ++41 +91 640 07 01
 info@timonta.ch
www.timonta.ch

Europe
Schurter AG
 Werkhofstrasse 8-12
 Postfach 4769
 6002 Luzern
 Tel: ++41 +41 369 31 11
 Fax: ++41 +41 369 33 33
 contact@schurter.ch
www.schurter.com

Europe
Schurter Holding AG
 Werkhofstrasse 8-12
 Postfach 4769
 6002 Luzern
 Tel: ++41 +41 369 31 11
 Fax: ++41 +41 369 33 33
 contact@schurter.ch
www.schurter.com

TAIWAN R.O.C.

Asia
 only for EMC
Daybreak International (Taiwan) Corp.
 3F, 124 Chung-Cheng Rd
 Shihlin
 Taipei
 Tel: ++886 +2 8866 1234
 Fax: ++886 +2 8866 1239
 day111@ms23.hinet.net
www.daybreak.com.tw

Asia
Farnell InOne
 Tel: ++886 +2 8692 6267
www.farnellinone.com

Asia
Future Electronics
 Tel: ++886 +2 8861 5288
www.futureelectronics.com

Asia
Solomon Technology Corp.
 No. 42, Sing-Zhong Rd., Nei-Hu District
 Taipei
 Tel: ++886 +2 8791 8989
 Fax: ++886 +2 8791 9693
 jammylin@solomon.com.tw
www.solomon.com.tw

THAILAND

Asia
Farnell InOne
 Tel: ++66 +2 935 6799
www.farnellinone.com

Asia
RS Components
 Tel: ++66 +2 361 8400
www.rswwww.com

Asia
Solomon Technology Thailand Co., Ltd.
 93/57, 5th Floor, The Modern Group Tower
 Chaengwatana Road, Pakkred
 Nonthaburi 11120
 Tel: ++66 +2 574 64 09
 Fax: ++66 +2 982 98 19
 info@solomon.th.com
www.solomon.th.com

UK & IRELAND

Europe
Abacus Polar
 Abacus House, Bone Lane, Newbury
 Berkshire, RG14 5SF
 Tel: ++44 +1635 515 711
 Fax: ++44 +1635 515 754
 emap@abacus.co.uk
www.abacus.co.uk

Europe
Acal Radiatron
 Alpha Way, Egham
 Surrey, TW10 8RZ
 Tel: ++44 +1784 439 393
 Fax: ++44 +1784 477 333
 sales@acal-radiatron.com
www.acal-radiatron.com

Europe
Acal TC
 Lunsford Road
 Leicester, LE5 0HH
 Tel: ++44 +116 274 4444
 Fax: ++44 +116 274 2236
 enquiries@acaltc.com
www.acaltc.co.uk

Europe
Arrow
 Edinburgh Way, Harlow
 Essex, CM20 2DF
 Tel: ++44 +1279 626 777
 Fax: ++44 +1279 441 687
 catalogue@arrowuk.com
www.arrow.com

Europe
E. Preston (Electrical) Ltd.
 Broadway, Globe Lane Ind Estate, Dukinfield
 Cheshire, SK16 4UU
 Tel: ++44 +161 339 5177
 Fax: ++44 +161 343 1935
 sales@epreston.co.uk
www.epreston.co.uk

Europe
Farnell InOne
 Canal Road
 Leeds, LS12 2TU
 Tel: ++44 +113 279 0101
 Fax: ++44 +113 387 5228
www.farnellinone.com

Europe
Future Electronics Ltd.
 Future House, Poyle Road, Colnbrook
 Berkshire, SL3 0AA
 Tel: ++44 +1753 763 000
 Fax: ++44 +1753 689 100
www.futureelectronics.com

Europe
H-Squared Electronics Ltd.
 Conifer House, Old Bridge Way, Shefford
 Bedfordshire, SG17 5HQ
 Tel: ++44 +1462 851 155
 Fax: ++44 +1462 815 187
 sales@h-squaredelectronics.co.uk
www.h-squaredelectronics.co.uk

Europe
RS Components Ltd.
 Birchington Road
 P.O. Box 99
 Northants, NN17 9RS
 Tel: ++44 +1536 201 201
 Fax: ++44 +1536 445 965
rswwww.com

Europe
Relec Electronics Ltd.
 6-7 Omega Centre, Sandford Lane, Wareham
 Dorset, BH20 4DY
 ++44 +1929 555 700
 ++44 +1929 555 701
 sales@relec.co.uk
www.relec.co.uk

Europe
Rowe Hankins Components Ltd.
 Power House, Parker Street, Bury
 Lancashire, BL9 0RJ
 Tel: ++44 +161 765 3000
 Fax: ++44 +161 763 1421
 sales@rowehankins.com
www.rowehankins.com

USA

Europe

Schurter Ltd.

Durban Road, Bognor Regis
West Sussex, PO22 9RX
Tel: ++44 +1243 810 810
Fax: ++44 +1243 810 800
sales@schurter.co.uk
www.schurter.com

Europe

Techna International Ltd.

Techna House, 36 Metro Centre, Dwight Road
Watford
Hertfordshire, WD18 9YA
Tel: ++44 +1923 222 227
Fax: ++44 +1923 219 700
sales@techna.co.uk
www.techna.co.uk

Americas

Allied Electronics

Tel: ++1 800 433 5700
www.alliedelec.com

Americas

Altex-Mar Electronics

Tel: ++1 800 783 2589
www.altex-mar.com

Americas

Avnet, Inc.

Tel: ++1 800 735 5426
www.avnet.com

Americas

Beyond Components

Tel: ++1 800 971 4242
www.beyondc.com

Americas

Brill Electronics

Tel: ++1 510 834 5888
www.brillelectronics.com

Americas

Carlton-Bates, Co.

Tel: ++1 866 600 6040
www.carlton-bates.com

Americas

Components Center

Tel: ++1 800 598 0433
www.componentscenter.com

Americas

Components Distributors, Inc.

Tel: ++1 800 777 7334
www.cdiweb.com

Americas

Dee Electronics, Inc.

Tel: ++1 800 747 DEE1
www.dee-inc.com

Americas

Digi-Key Corporation

Tel: ++1 800 DIGI-KEY
www.digikey.com

Americas

Fuses Unlimited

Tel: ++1 800 255 1919
www.fusesunlimited.com

Americas

Future Electronics

Tel: ++1 800 477 6668
www.futureelectronics.com

Americas

Leeds Electronics

Tel: ++1 800 733 1277
www.leedselectronics.com

Americas

Leo J. Mahoney Co.

Tel: ++1 614 798 8403
www.ljmahoneyco.com

Americas

Masline Electronics

Tel: ++1 800 Masline
www.masline.com

Americas

Master Distributors

Tel: ++1 912 452 1229
www.masterdistributors.com

Americas

Mouser Electronics

Tel: ++1 800 346 6873
www.mouser.com/schurter

Americas

Nedco Electronics

Tel: ++1 800 605 2323
www.nedcoelectronics.com

Americas

Newark InOne

Tel: ++1 800 2 NEWARK
www.newarkinone.com

Americas

Nu-Way Electronics

Tel: ++1 800 323 7957
www.nuway.net

Americas

Onlinecomponents.com

Tel: ++1 310 452 8516
www.onlinecomponents.com

Americas

Poco Sales

Tel: ++1 800 762 6725
www.pocosales.com

Americas

Quail Electronics

Tel: ++1 800 669 8090
www.quailelectronics.com

Americas

Radar, Inc.

Tel: ++1 800 282 2524
www.radarinc.com

Americas

Sager Electronics

Tel: ++1 800 SAGER 800
www.sager.com

Americas

Schurter Inc.

447 Aviation Boulevard
Santa Rosa CA 95403
Tel: ++1 +707 636 3000
Fax: ++1 +707 636 3033
info@schurterinc.com
www.schurter.com

Americas

Taylor Industrial Electronics

Tel: ++1 262 241 4321
www.taylorwi.com

Americas

Wes-Garde Components Group, Inc.

Tel: ++1 800 554 8866
www.wesgarde.com

172321	FEF (Snap)	OMF 125
172322	FEU	OMF 250
172581	FEU (Grip)	OMF 63
172582	FEU (Med)	OMH 125
172593	FIN	OMK 125
172600	FIO	OMK 63
172844	FIZ	OMT
172876	FME	OMT 125
231409	FMR	OMZ 125
231411	FMS (125V)	OSU 125
231529P	FMS (250V)	OSU 250
231549P	FPG1	PDFD
231600P	FPG2	PFHT
231618	FPG3	PFMF
23162	FPG4	PFNF
231651	FPG5	PFRA
231660	FPG6	PFRX
231683	FPG7	PFSM
231685	FRT 250F	PSC 125V
231702	FRT 250T	RSH
231756R	FSF 5x20	SA 5x20
231786	FSF 5x20 Pigtail	SA 6.3x32
231787	FSF 6.3x32	SMD-FST
231819	FSF 6.3x32 (UL)	SMD-FTT
231828	FSK 5x20	SMD-SPT
23211B	FSK 5x20 Pigtail	SP 5x20
23312P	FSL 5x20	SP 5x20 Pigtail
23316P	FSL 5x20 Pigtail	SP 6.3x32
23351B	FSM 5x20	SPT 5x20
23463P	FST 5x20	SPT 5x20 Pigtail
23530P	FST 5x20 Pigtail	SPT 6.3x32
23748B	FST 6.3x32	SSU 5x20
A10 aM	FST 6.3x32 (UL)	TF 600
A10 gG	FSU 5x20	UH
A12BK	FTT 5x20	UHB
A12FA 250V	FTT 6.3x32	UMT 250
A12FA 380V	FUL	USF 0603
A12FA 500V	FUP	USF 1206
A12FA 660V	MA	
A12M 125V	MADM	
A12TD	MAM	
A3BK	MAT	
CQM	MC	
D0	MGA	
D1	MKF	
D1TD	MKT	
D20K	MSB	
D20TD	MSF 125	
D8	MSF 250	
D8M 125V	MST 250	
D8STTD	MSTU 250	
D8TD	MSU 125	
FAB	MSU 250	
FAC	MXT 250	
FAF	OG (Clip) 5x20	
FAP	OG (Clip) 5x20 / 6.3x32	
FAS	OG (Holder) 5x20	
FAU	OG (Holder) 6.3x32	
FBS1	OGD	
FBS2	OGD-SMD	
FEC	OGN	
FEF	OGN-SMD	

0001.1001-0001.1016	SP 5x20	3101.0010-3101.0315	FPG1
0001.1001.PT-0001.1016.TR	SP 5x20 Pigtail	3101.0020-3101.0325	FPG2
0001.1021-0001.1037	SP 6.3x32	3101.0030-3101.0336	FPG3
0001.2501-0001.2516	SPT 5x20	3101.0040, 3101.0045	FPG4
0001.2501.PT-0001.2516.TR	SPT 5x20 Pigtail	3101.0050, 3101.0055	FPG5
0001.2521-0001.2539	SPT 6.3x32	3101.0060, 3101.0260	FPG6
0001.2704.11-0001.2716.22	SMD-SPT	3101.0070, 3101.0075	FPG7
0031.1081-0031.1185	FEF	3402.0003.11-3402.0040.24	OMF 63
0031.1091-0031.1914	FEF (Snap)	3403.0010.11-3403.0022.24	OMF 250
0031.1351, 0031.1353	FIN	3403.0129.11-3403.0123.24	OMT
0031.1361-0031.1383	FIO	3403.0161.11-3403.0172.24	UMT 250
0031.1631-0031.1616	FEC	3404.0003.11-3404.0021.24	OMF 125
0031.1681-0031.1666	FEU (Med)	3404.0110.11-3404.0122.24	OMT 125
0031.1693-0031.1666	FEU	3404.2303.11-3404.2317.23	OMK 125
0031.1801-0031.1812	FEU (Grip)	3404.2320.11-3404.2331.23	OMZ 125
0031.2201-0031.2207	FIZ	3410.0021.01-3410.0141.04	MGA
0031.2307-0031.2322	FUL	3412.0113.24-3412.0124.26	USF 0603
0031.2500-0031.2323	FUP	3413.0112.22-3413.0123.26	USF 1206
0031.3501	FAS	3422.0003.11-3422.0017.23	OMK 63
0031.3551, 0031.3558	FAB	7010.1607.12-7010.1626.46	172844
0031.3573-0031.1666	FAU	7010.1740.12-7010.1900.46	172593
0031.3601	FAP	7010.2110-7010.2630	D0
0031.3701-0031.3753	FAF	7010.3110-7010.3650	D1
0031.3803-0031.1666	FAC	7010.7010.13-7010.7170.49	172322
0031.3901-0031.3913	FBS1	7010.9513.03-7010.9523.57	MKT
0031.3981, 0031.3991	FBS2	7010.9750.63-7010.9896.59	172876
0031.5001, 0031.5010	UH	7010.9900.03-7010.9917.57	MKF
0031.5101	UHB	7010.9960.63-7010.9973.59	MSB
0031.6001, 0031.6010	RSH	7015.1130-7015.1660	D8
0031.7501	FMS (125V)	7015.6410-7015.6380	D8M 125V
0031.7503	FME	7017.5150-7017.5380	D20K
0031.7505	FMR	7020.3800-7020.3960	172581
0031.7601	FMS (250V)	7020.8010-7020.8110	MC
0031.7701.11-0031.7701.23	OMH 125	7020.8510-7020.8610	MA
0031.8001	OG (Holder) 5x20	7020.9110-7020.9170	MADM
0031.8002	OG (Holder) 6.3x32	7022.0000-7022.0210	A12FA 380V
0031.8201, 0031.8211	OGN	7022.0500-7022.0710	A12FA 500V
0031.8221-0031.8225	OGN-SMD	7022.0610-7022.0470	A12FA 250V
0031.8231	OGD	7022.0750-7022.0880	A12FA 660V
0031.8241	OGD-SMD	7023.0110-7023.0360	A12BK
0034.0903-0034.0911	SA 5x20	7023.0790-7023.0940	172582
0034.1001-0034.1012	SA 6.3x32	7023.1710	A12M 125V
0034.1513.PT-0034.1526.TR	FSF 5x20 Pigtail	7024.9110-7024.9400	A3BK
0034.1527-0034.1526	FSF 5x20	7025.4010-7025.4120	MAM
0034.1736-0034.1756	FSF 6.3x32	7025.5110-7025.5160	MAT
0034.2511-0034.2526	FSM 5x20	7030.3110-7040.3210	D1TD
0034.3101-0034.3130	FST 5x20	7033.8100-7043.8230	172600
0034.3114.PT-0034.3130.TR	FST 5x20 Pigtail	7035.1510-7045.1420	D8TD
0034.3401-0034.3430	FST 6.3x32	7035.7310-7035.7410	D8STTD
0034.3761.PT-0034.3881.TR	FSL 5x20 Pigtail	7037.1110-7047.1430	D20TD
0034.3851-0034.3885	FSK 5x20	7043.6110-7043.6670	A12TD
0034.3851.PT-0034.3885.TR	FSK 5x20 Pigtail	7082.1110, 7170.0480	23351B
0034.3881-0034.3781	FSL 5x20	7083.1110	23211B
0034.4209-0034.4558	MSF 125	7083.2110	23748B
0034.5031-0034.5049	FTT 5x20	7085.1910-7085.3910	23162
0034.5107-0034.5147	FSF 6.3x32 (UL)	7085.4910	231756R
0034.5204-0034.5247	FST 6.3x32 (UL)	7090.6020	231600P
0034.5503-0034.5519	FTT 6.3x32	7090.9010.03, 7090.9010.55	231786
0034.5604.11-0034.5630.22	SMD-FST	7090.9020.03, 7090.9020.55	231787
0034.5705.11-0034.5719.22	SMD-FTT	7091.1510, 7091.1520	23316P
0034.6000-0034.6081	MSF 250	7091.3120	231411
0034.6602-0034.6823	MST 250	7091.4210-7091.4400	231409
0034.6914-0034.6985	MXT 250	7091.6110	231529P
0034.7103-0034.7325	MSTU 250	7091.7100-7091.7130	231618
0751.0052-0751.0231	OG (Clip) 5x20	7092.2520-7092.2630	23312P
0751.0056-0751.0142	OG (Clip) 5x20 / 6.3x32	7092.2750, 7092.2760	231702
0752.1242, 0752.1243	CQM	7092.6150, 7092.6160	23463P
2000.0010-2000.0012	TF 600	7093.0110	231549P
2010.0011-2010.0022	FSU 5x20	7093.2510, 7093.2540	23530P
2020.0001-2020.0009	SSU 5x20	7100.0160.71-7100.0200.71	PSC 125V
2030.0013-2030.0556	MSU 125	7100.1007.13-7100.1125.96	FRT 250T
2040.0609-2040.0820	MSU 250	7100.1057.13-7100.1175.96	FRT 250F
2060.0006.11-2060.0048.24	OSU 125	7100.6300.13-7010.6490.49	172321
2070.0010.11-2070.0021.24	OSU 250	7141.2001	231828
		7149.9017.01	231651

7149.9019.03	231819
7170.0470	231660
7181.4100-7181.4113	A10 aM
7181.4120-7181.4131	A10 gG
7181.5001	231683
7181.5003	231685
PFDF.050.2	PFDF
PFHT.136.2, PFHT.160.2	PFHT
PFMF.010.2-PFMF.075.2	PFMF
PFNF.012.2-PFNF.150.2	PFNF
PFRA.010-PFRA.1100	PFRA
PFRX.110-PFRX.375	PFRX
PFSM.030.2-PFSM.260.2	PFSM

With the catalogue Fuses no. 0165.0281 English, the catalogue no. 0165.0280 English/German becomes invalid.