



贝特卫士®

更好的电路安全卫士!
You build electronics, We safeguard them!

承 认 书

APPROVAL SHEET

编 号 No.

日期 Date

客 户

Customer

品 名

Product

Quick-Acting Sub-Miniature Fuse

系 列

Series

211 Series

料号 Part No.

规格描述 Specification

备注 Remark

贝特电子
Betterfuse客 户
Customer

环保特别提示 Special instructions for environmental protection

本产品:

供应商-贝特电子
Supplier-Betterfuse零件承认章
Approval Signet客 户
Customer零件承认章
Approval Signet制 作
Make审 核
Check确 认
Approval

联络 Contact

业务 Sales

电话 Telephone

手机 Cellphone

邮箱 E-mail

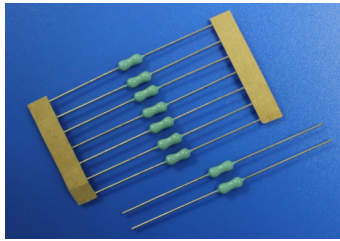
零件承认后敬请回签一份给我司留存, 或将承认后的封面传真(0769-8352 1857)至我司, 谢谢!

Document Record						
No.	Date	Modified Content	Page	Edition	Prepared/modified by	Checked by
1	2014.03.14	Draft	6	A/0	Runsong Zhong	Lianghua Guo
2	2014.06.21	Release Edition	10	B/0	Kings Luo	Wenhua Yan
3	2015.02.05	125mA I ² t change 0.0298 as 0.0256.	10	B/1	Kings Luo	Wenhua Yan
4	2015.07.31	Update UL and UR certification		B/2	Jeffery	Gem Guo
5	2016.08.19	Add the 6A.		B/3	Jeffery	Wenhua Yan
6						
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1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to fuses of the 211 series. The 211 series is a quick-acting type subminiature fuse for over-current protection.

Due to its small size the 211 series' main applications are for flat-panel TVs, medical equipment, LCD monitors, lighting systems and industrial equipment.

2. GENERAL INFORMATION

General Description

The 211 series quick-acting fuse with low breaking capacity for use with printed circuit boards and is used in a variety of applications. This 3.0x7mm device is constructed of a ceramic body with electro-plated brass end caps. The 211 series comes with 250 VAC rating and 50 Ampere breaking capacity, offers excellent quality and is 100% tested for cold resistance and precise length.

Detailed Features

- Subminiature fuse with quick-acting, low breaking capacity
- 3.0mm x 7mm physical dimensions
- Ceramic tube, encapsulated with epoxy coating and with nickel plated brass end caps
- Optional axial leads are 0.6mmX26.5mm
- Protection against harmful over-currents in primary and secondary applications.
- Lead-free, Halogen-free, RoHS compliant
- Designed compliant to UL 248-14

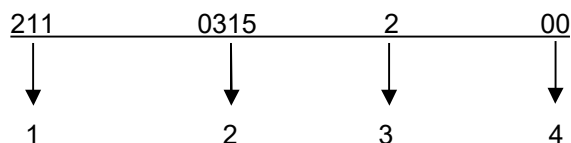
3. AGENCY APPROVALS

Agency	Agency File Number	Ampere/ Voltage Range
	E300003	125VAC/ 250VAC: 0.1A~2.5A
	E300003	125V AC/250VAC: 3.15A~10A 16V AC/32VAC: 12A~20A
	J 50242119	250VAC: 250mA; 315mA; 400mA; 500mA; 630mA; 800mA; 1A; 1.25A; 1.6A; 2A; 2.5A; 3.15A; 4A;

4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 2110315200



1	Product Series	211
2	Ampere Rating	315mA (see table 4.3 below)
3	Max. Voltage Rating	2: 250VAC (only by 0.1A~10A); 32VAC (only by 12~20A)
4	Supplementary Code	(see table 4.2 below)

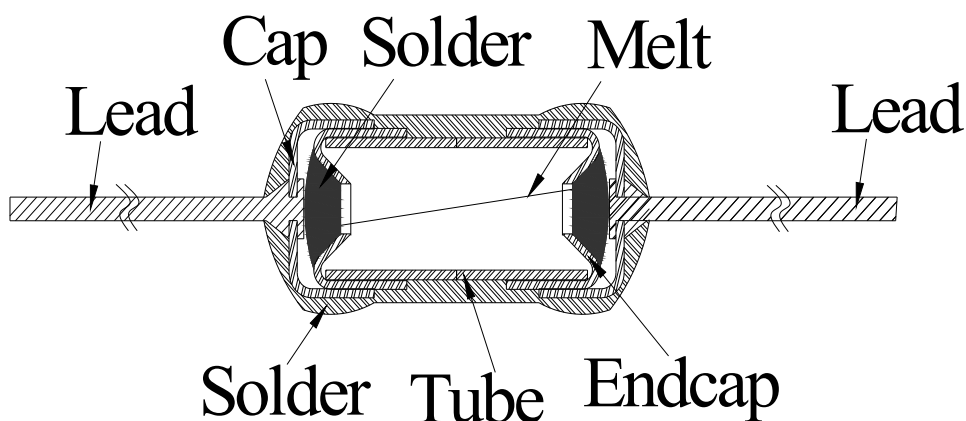
4.2 Supplementary Code Table

CODE	DESIGNATION
00	Standard model
01	Bent leads
02	Custom designed

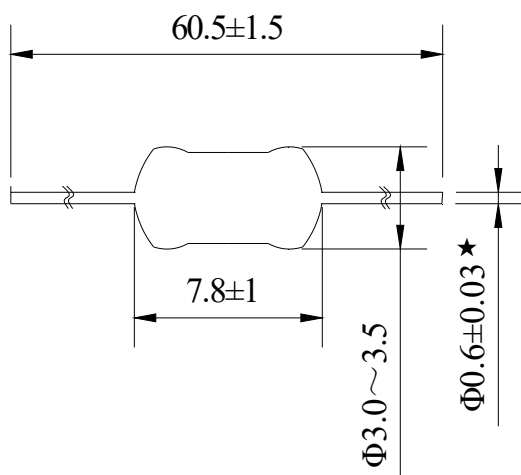
4.3. Ampere / Voltage Rating Table

AMP CODE	CURRENT RATING	VOLTAGE RATING
0100	100mA	125 / 250V AC
0125	125mA	125 / 250V AC
0160	160mA	125 / 250V AC
0200	200mA	125 / 250V AC
0250	250mA	125 / 250V AC
0315	315mA	125 / 250V AC
0400	400mA	125 / 250V AC
0500	500mA	125 / 250V AC
0630	630mA	125 / 250V AC
0800	800mA	125 / 250V AC
1100	1.00A	125 / 250V AC
1125	1.25A	125 / 250V AC
1160	1.60A	125 / 250V AC
1200	2.00A	125 / 250V AC
1250	2.50A	125 / 250V AC
1315	3.15A	125 / 250V AC
1400	4.00A	125 / 250V AC
1500	5.00A	125 / 250V AC
1600	6.00A	125 / 250V AC
1630	6.30A	125 / 250V AC
1800	8.00A	125 / 250V AC
2100	10.00A	125 / 250V AC
2120	12.00A	16 / 32V AC
2150	15.00A	16 / 32V AC
2160	16.00A	16 / 32V AC
2200	20.00A	16 / 32V AC

5. MECHANICAL SPECIFICATIONS



Dimensions (units: mm)



100mA~6.3A: $\Phi 0.6$ mm

8A~20A: $\Phi 0.8$ mm

Operating Temperature:

-55°C to +125°C

Storage Conditions:

+10°C to +60°C

Relative humidity: $\leq 75\%$ yearly average
without dew, maximum 30 days at 95%

Vibration Resistance:

24 cycles at 15 min. each (60068-6)

10-60Hz at 0.75mm amplitude

60-2000Hz at 10g acceleration

6. ELECTRICAL SPECIFICATIONS

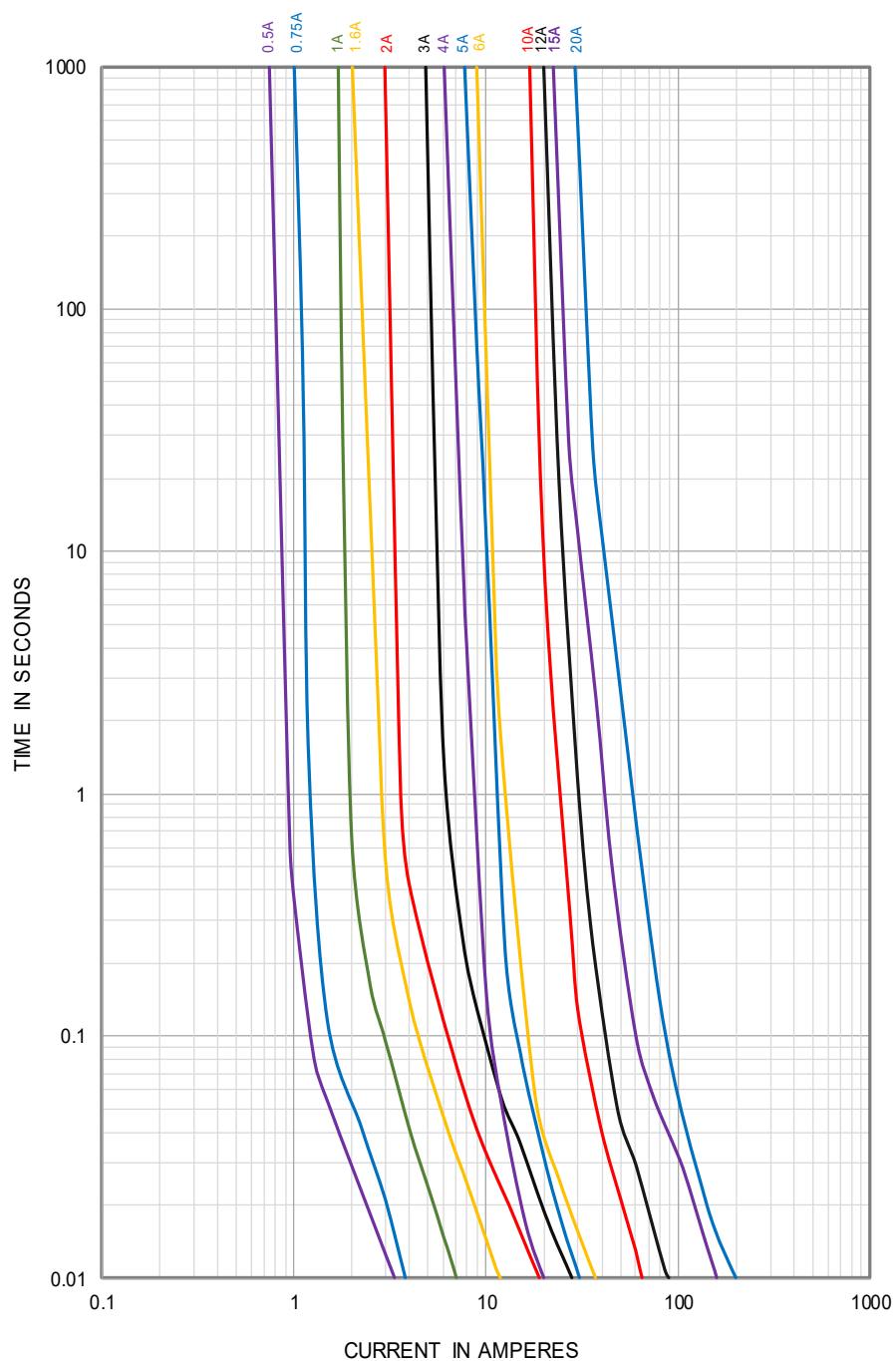
Time vs Current Characteristics Table

(measured with constant current power supply)

Time vs Current Characteristics: UL-248-14

Rated Current	100%	200%
100mA~20A	>4h	<60s

Average Time Current (I-T) Curves

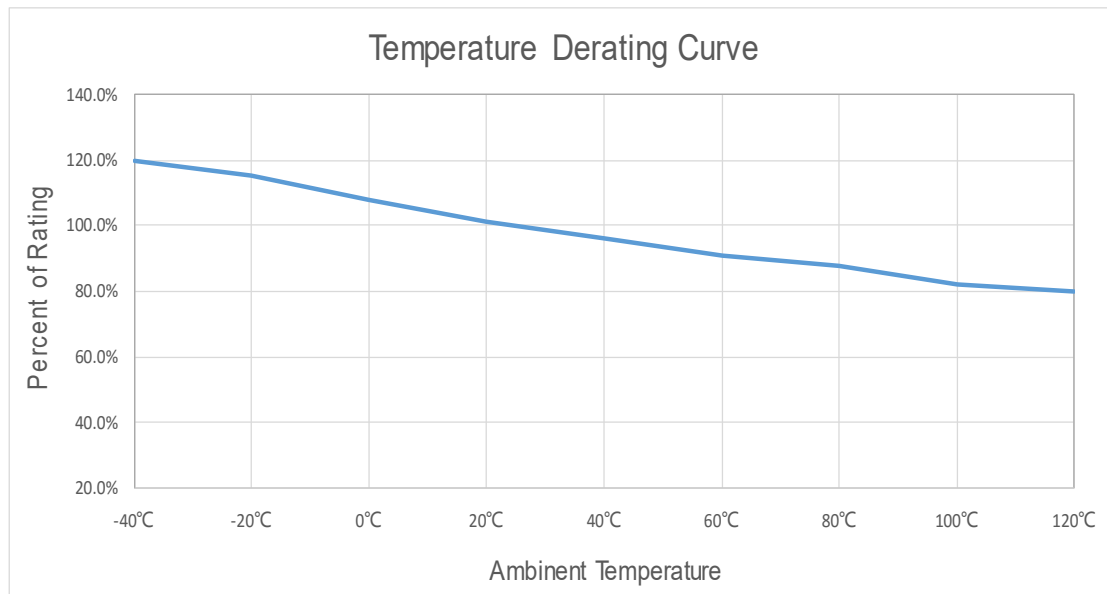


Electrical characteristics

Electrical Characteristics							
Amp Code	Rated Current	Max. Voltage	Nominal Melting I ² t (A ² sec)	Breaking Capacity	Approvals		
					cULus	cURus	TUV
0100	100mA	250V AC	0.0191	50A@250V AC 50A@125V AC	●	○	○
0125	125mA		0.0256		●	○	○
0160	160mA		0.0489		●	○	○
0200	200mA		0.081		●	○	○
0250	250mA		0.1265		●	○	●
0315	315mA		0.2304		●	○	●
0400	400mA		0.360		●	○	●
0500	500mA		0.1089		●	○	●
0630	630mA		0.1267		●	○	●
0800	800mA		0.301		●	○	●
1100	1.00A		0.49		●	○	●
1125	1.25A		0.846		●	○	●
1160	1.60A		1.392		●	○	●
1200	2.00A		3.61		●	○	●
1250	2.50A		6.76		○	○	●
1315	3.15A		7.99	35A@250V AC 35A@125V AC	○	●	●
1400	4.00A		4.00		○	●	●
1500	5.00A		9.3		○	●	○
1600	6.00A		13.7		○	●	○
1630	6.30A		12.96		○	●	○
1800	8.00A		29.16		○	●	○
2100	10.00A		42.25		○	●	○
2120	12.00A	32V AC	78.32	50A@32V AC 100A@16V AC	○	●	○
2150	15.00A		249.6		○	●	○
2160	16.00A		255		○	●	○
2200	20.00A		392		○	●	○

Note: (1) Permissible continuous operating current is 100% at ambient temperature of 23°C (73.4°F)
 (2) The cURus and cULus certification for 100mA~10A only by 125V and 250V AC, for 12A~16A only by 16V and 32V AC; the TUV certification only by 250V AC.
 (3) The current values used for calculating I²T should be within the standard range of 8ms ~ 10ms.

Temperature Derating Curve



$$\text{Calculation for ideal fuse selection} = \frac{\text{Operating Current (A)}}{\text{Rating (\%} \times 0.75 \text{)}}$$

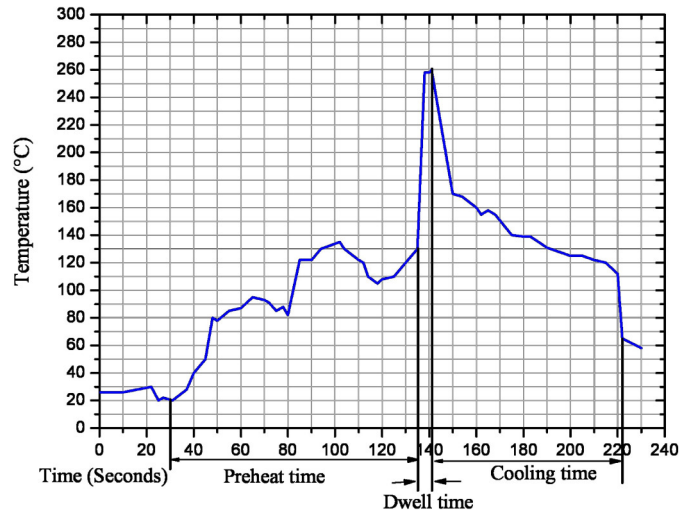
7. SOLDERING PARAMETERS

260°C. ≤5 sec (Wave Soldering)

350°C. ≤3 sec (Hand Soldering)

Soldering Peak:

260°C - 10 sec (IEC 60068-20)



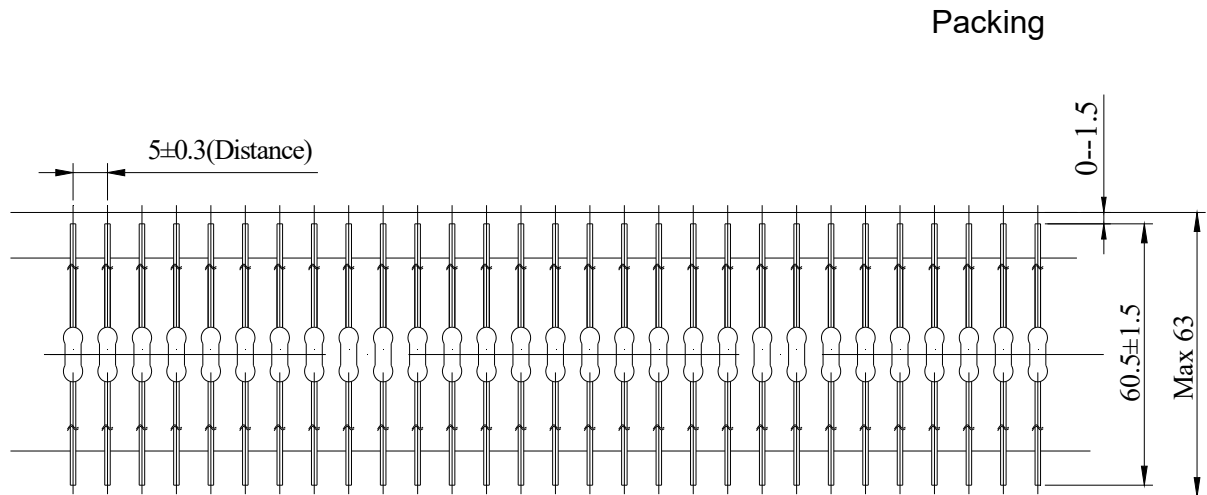
8. ORDERING INFORMATION

Series	Amp Code	Supplementary Code	Qty
211			

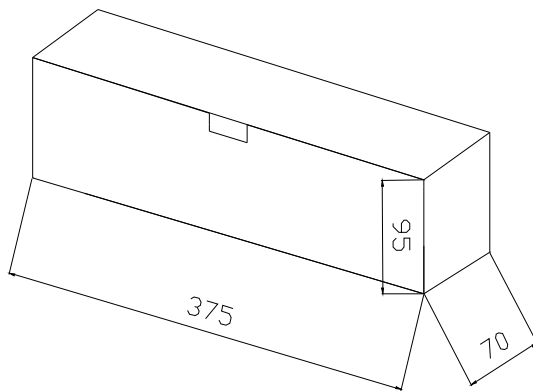
The following information are necessary in order to place your order with us correctly:

9. PACKING INFORMATION

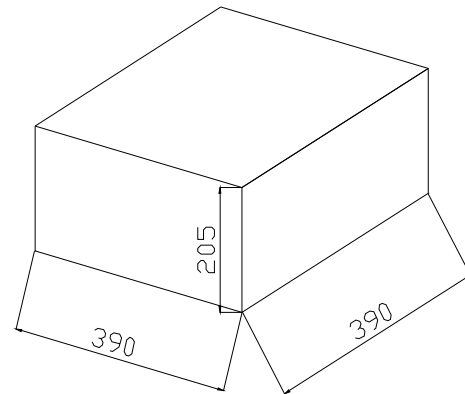
Taping details



Inner Box



Master Carton



Net Weight (3000pcs+Tapping)	890g	Master Carton Weight	10.7kg
Qty per box	3000pcs	Qty per carton	30000pcs

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东莞市贝特电子科技股份有限公司

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Web: www.betterfuse.com

Email: info@betterfuse.com

10. APPENDIX



ONLINE CERTIFICATIONS DIRECTORY

JDYX2.E300003 Fuses, Supplemental - Component

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Fuses, Supplemental - Component

[See General Information for Fuses, Supplemental - Component](#)

DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD
 RM 601 OF 16 BLK
 XINZHUYUAN NO 4 XINZHU RD
 SONGSHANLAKE HIGHTECH INDUSTRIAL DEVELOPMENT ZONE
 DONGGUAN, GUANGDONG 523808 CHINA

E300003

Supplemental micro fuses: pigtail leads, surface mount

Cat. No.	Size mm(in)	Amps (A)	Volts (V)	Interrupting Rating (A)
211, followed by 1 or 2, followed by three digit number				
	3.0 x 7.2 (0.12 x 0.28)	3.15 - 10	125Vac	35
		3.15 - 10	250Vac	35
		12 - 20	16Vac	100
		12 - 20	32Vac	50

Supplemental micro fuses: pigtail leads

Cat. No.	Size mm(in)	Amps (A)	Volts (V)	Interrupting Rating (A)
212	7.2 x 3.0 (0.28 x 0.12)	3 - 6.3	125Vac	35
		3 - 6.3	250Vac	35

Marking: Company name and model designation.

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JDYX.E300003 Fuses, Supplemental

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Fuses, Supplemental

[See General Information for Fuses, Supplemental](#)

DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD
RM 601 OF 16 BLK
XINZHUYUAN NO 4 XINZHU RD
SONGSHANLAKE HIGHECH INDUSTRIAL DEVELOPMENT ZONE
DONGGUAN, GUANGDONG 523808 CHINA

E300003

Supplemental micro fuses: pigtail leads

Cat. No.	Size mm(in)	Amps (A)	Volts (V)	Interrupting Rating (A)
212	7.2 x 3 (0.28 x 0.12)	0.1 - 2.5	125Vac	50
		0.1 - 2.5	250Vac	50

Supplemental micro fuses: pigtail leads, surface mount, cartridge enclosed

Cat. No.	Size mm(in)	Amps (A)	Volts (V)	Interrupting Rating (A)
211	3.0 x 7.2 (0.12 x 0.28)	0.1 - 2.5	125Vac	50
		0.1 - 2.5	250Vac	50

x - Where x represents number.

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Zertifikat

mit überwachter Konformität

Certificate

of surveyed conformity



Zertifikat Nr. Certificate No.
J 50242119

Blatt Page
0001

Ihr Zeichen Client Reference

Unser Zeichen Our Reference

05-YFC- 16047191 001

Ausstellungsdatum

27.11.2012

Date of Issue
(day/mo/yr)

Genehmigungsinhaber License Holder

Dongguan Better Electronics
Technology Co., Ltd.

Room No. 102, 103 of 3rd block

114 of 4th Block Innovtive Tech. Par

of Songshan Lake High-tech Ind. Park

Dongguan, Guangdong

P.R. China

Fertigungsstätte Manufacturing Plant

Dongguan Better Electronics
Technology Co., Ltd.

Nanmen Village, Hengken

Administrative Zone, Liaobu Town

Dongguan, Guangdong

P.R. China

Prüfzeichen Test Mark

Geprüft nach Tested acc. to

EN 60127-1:2006+A1

EN 60127-3:1996+A2



Zertifiziertes Produkt (Geräteidentifikation)

Certified Product (Product Identification)

Lizenzentgelte - Einheit

License Fee - Unit

(Sub-miniature Fuse-links)

Type Designation : 211
Rated Voltage : AC 250V; 50Hz/60Hz
Rated Current (In) : 250mA; 315mA; 400mA; 500mA; 630mA;
800mA; 1A; 1,25A; 1,6A; 2A; 2,5A;
3,15A; 4A
Time/Current Characteristic: F
Rated Breaking Capacity : AC 35A or 10In(which is higher)

15

Remark :

The requirements of standard sheet 3 were taken into consideration.

The labelling requirements acc. to EU Directive 2001/95 have to be observed for distribution within the EEA.

The installation has to be carried out according to installation instruction accompanying the products.

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ANLAGE (Appendix) : 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

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Zertifizierungsstelle

Dipl.-Ing. (FH) T. Zimmer

