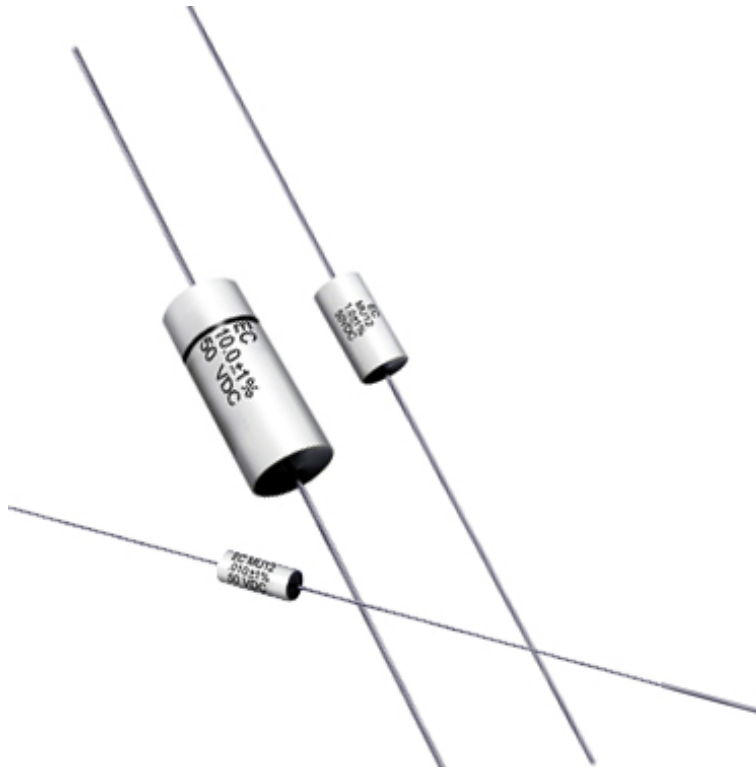


MU12 SERIES

Metallized Polyphenylene Sulfide (PPS)

Wrap & Fill Tubular Configuration

Specifically designed for low-drift, tight tolerance applications



FEATURES

- Direct Replacement For Polycarbonates
- 1% Capacitance Tolerance
- Manufactured To MIL Standards

STANDARD CONFIGURATIONS

- Wrap and Fill Tubular Configuration

Specification Summary

Capacitance Range

Capacitance shall be measured at 25° and at, or referred to, a frequency of 1 kHz.

Capacitance Tolerance

Standard tolerance is: $\pm 1\%$, $\pm 2\%$, $\pm 5\%$, $\pm 10\%$.

Operating Temperature Range

-55°C to +125°C.

Enclosure/ Construction

Extended metallized PPS film (non-inductive).

Voltage Rating

DC working voltage ratings at +125° C, are 50VDC, 100VDC, 200VDC and 400VDC.

Quality Control

Capacitors are tested 100% for:

- o Capacitance
- o Tolerance
- o Dissipation Factor
- o Dielectric withstanding Voltage
- o Insulation resistance

Capacitors can meet or exceed all requirements of MIL-PRF-55514.

Process and inspection data are maintained and available on special request.

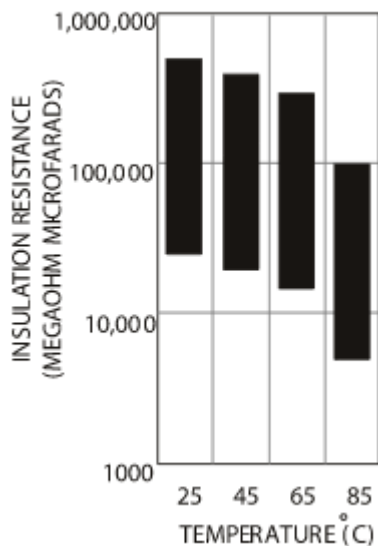
Environmental

Parameter	Method	Condition
Vibration	204	D
Immersion	104	B
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F
Reference MIL-STD-202		

Characteristics

Insulation Resistance

Temperature(°C)	25	85	125	
Megaohmsx Microfarads	50,000	5,000	500	
Insulation Resistance				

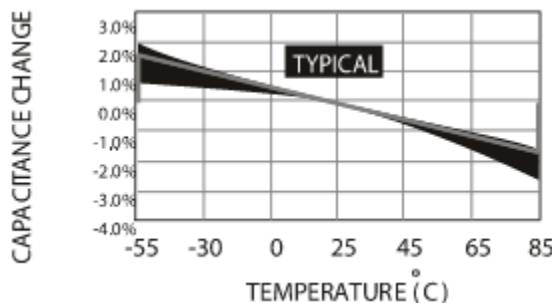


Dielectric Strength

Capacitors shall withstand a DC potential of 200% rated voltage for two (2) minutes without damage or breakdown. Test voltage must be applied and discharged through a resistance of 1 OHM per volt, minimum and at 25° C.

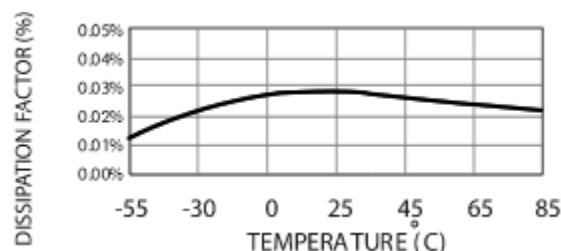
Capacitance Change

Temperature(°C)	-55	25	85	125
Percentage Change (typical)	+2.0	0	± 1.0	± 2.0
Capacitance Change				



Dissipation Factor

When measured at 1 kHz, the dissipation factor shall not exceed 0.3% from +25° C to +125° C.



DIMENSIONAL DATA

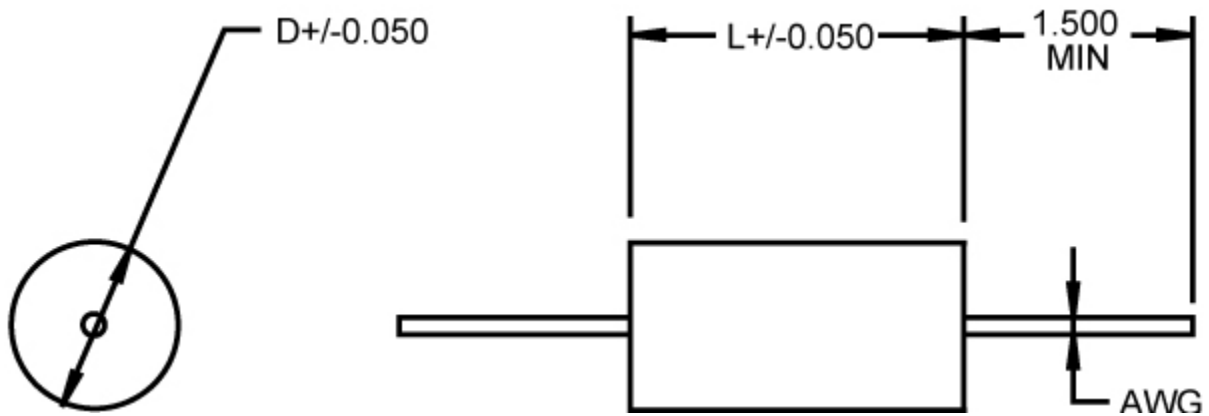
EC Part Number	MFD	50 VDC			100 VDC			200 VDC			400 VDC		
		D	L	G	D	L	G	D	L	G	D	L	G
MU12-102	0.0010	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-122	0.0012	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-152	0.0015	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-182	0.0018	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-222	0.0022	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-272	0.0027	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-332	0.0033	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24
MU12-392	0.0039	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.21	0.45	24
MU12-472	0.0047	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.22	0.45	24
MU12-562	0.0056	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.58	24
MU12-682	0.0068	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.58	24
MU12-822	0.0082	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.20	0.58	24
MU12-103	0.0100	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.22	0.58	24
MU12-123	0.0120	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.23	0.58	24
MU12-153	0.0150	0.20	0.45	24	0.20	0.45	24	0.20	0.45	24	0.25	0.58	24
MU12-183	0.0180	0.20	0.45	24	0.20	0.45	24	0.21	0.45	24	0.27	0.58	24
MU12-223	0.0220	0.20	0.45	24	0.20	0.45	24	0.22	0.45	24	0.29	0.58	24
MU12-273	0.0270	0.20	0.45	24	0.20	0.45	24	0.20	0.58	24	0.32	0.58	24
MU12-333	0.0330	0.20	0.45	24	0.20	0.45	24	0.20	0.58	24	0.34	0.58	24
MU12-393	0.0390	0.20	0.45	24	0.20	0.45	24	0.21	0.58	24	0.32	0.73	24
MU12-473	0.0470	0.20	0.45	24	0.20	0.45	24	0.23	0.58	24	0.35	0.73	24
MU12-563	0.0560	0.20	0.45	24	0.21	0.45	24	0.24	0.58	24	0.38	0.73	24
MU12-683	0.0680	0.20	0.45	24	0.23	0.45	24	0.26	0.58	24	0.37	0.83	24
MU12-823	0.0820	0.20	0.45	24	0.20	0.58	24	0.28	0.58	24	0.40	0.83	22
MU12-104	0.1000	0.20	0.45	24	0.21	0.58	24	0.30	0.58	24	0.43	0.83	22
MU12-124	0.1200	0.20	0.45	24	0.22	0.58	24	0.32	0.58	24	0.46	0.83	22
MU12-154	0.1500	0.21	0.45	24	0.24	0.58	24	0.36	0.58	24	0.45	1.00	22
MU12-184	0.1800	0.20	0.58	24	0.25	0.58	24	0.34	0.73	24	0.49	1.00	22
MU12-224	0.2200	0.20	0.58	24	0.27	0.58	24	0.37	0.73	24	0.46	1.22	22
MU12-274	0.2700	0.21	0.58	24	0.29	0.58	24	0.37	0.83	24	0.50	1.22	20
MU12-334	0.3300	0.23	0.58	24	0.31	0.58	24	0.40	0.83	22	0.55	1.22	20
MU12-394	0.3900	0.24	0.58	24	0.34	0.58	24	0.43	0.83	22	0.59	1.22	20
MU12-474	0.4700	0.25	0.58	24	0.31	0.73	24	0.46	0.83	22	0.64	1.22	20
MU12-564	0.5600	0.27	0.58	24	0.34	0.73	24	0.44	1.00	22	0.69	1.22	20
MU12-684	0.6800	0.29	0.58	24	0.34	0.83	24	0.41	1.22	22	0.70	1.50	20
MU12-824	0.8200	0.31	0.58	24	0.36	0.83	24	0.44	1.22	22	0.68	1.75	20
MU12-105	1.0000	0.33	0.58	24	0.39	0.83	24	0.49	1.22	22	0.71	1.95	20
MU12-125	1.2000	0.31	0.73	24	0.42	0.83	22	0.53	1.22	20	0.77	1.95	20
MU12-155	1.5000	0.33	0.73	24	0.42	1.00	22	0.58	1.22	20	0.85	1.95	20
MU12-185	1.8000	0.34	0.83	24	0.45	1.00	22	0.63	1.22	20	0.92	1.95	20
MU12-205	2.0000	0.35	0.83	24	0.43	1.22	22	0.66	1.22	20	0.97	1.95	20
MU12-255	2.5000	0.39	0.83	24	0.47	1.22	22	0.67	1.50	20	-	-	-
MU12-305	3.0000	0.42	0.83	22	0.50	1.22	22	0.66	1.75	20	-	-	-
MU12-355	3.5000	0.45	0.83	22	0.53	1.22	20	0.71	1.75	20	-	-	-
MU12-405	4.0000	0.42	1.00	22	0.57	1.22	20	0.71	1.95	20	-	-	-
MU12-455	4.5000	0.44	1.00	22	0.60	1.22	20	0.75	1.95	20	-	-	-
MU12-505	5.0000	0.41	1.22	22	0.63	1.22	20	0.78	1.95	20	-	-	-
MU12-605	6.0000	0.44	1.22	22	0.67	1.22	20	0.85	1.95	20	-	-	-

NOTE: All dimensions are in inches.

EC Part Number	MFD	50 VDC			100 VDC			200 VDC			400 VDC		
		D	L	G	D	L	G	D	L	G	D	L	G
MU12-805	8.0000	0.50	1.22	22	0.68	1.50	20	0.97	1.95	20	-	-	-
MU12-106	10.0000	0.55	1.22	20	0.69	1.75	20	1.07	1.95	20	-	-	-
MU12-126	12.0000	0.59	1.22	20	0.70	1.95	20	-	-	-	-	-	-
MU12-156	15.0000	0.65	1.22	20	0.77	1.95	20	-	-	-	-	-	-
MU12-186	18.0000	0.63	1.50	20	0.83	1.95	20	-	-	-	-	-	-
MU12-206	20.0000	0.66	1.50	20	0.87	1.95	20	-	-	-	-	-	-

NOTE: All dimensions are in inches.

Mechanical Data



ADDITIONAL INFORMATION

The MU12 SERIES is a new, versatile, PPS film capacitor, developed by Electronic Concepts as a direct replacement for polycarbonate capacitors — to meet the ever changing, more demanding requirements of circuit designers. Although not required, it is built to MIL-PRF-55514 for reliability. The MU12 SERIES is specifically designed for low-drift, tight tolerance applications. This includes analog and timing circuits, high frequency uses and filter networks. There is capacitance tolerance as low as 1% for applications that require an exact capacitance match. Performance characteristics encompass low temperature coefficient, high insulation resistance, an operating temperature range of -55°C to +125°C, dissipation factor less than 0.3%, voltages from 50- 400VDC and excellent retrace.

With the introduction of the MU12 SERIES, the designer can now build in more performance with greater reliability and operating protection. In addition, overall system cost savings can very often be realized.

HOW TO ORDER

TYPE Extended metallized PPS film (non-inductive)	→	MU12
STYLE / VOLTAGE B=50VDC, D=100VDC, F=200VDC, J=400VDC	→	B
CAPACITANCE IN PICOFARADS The first two digits are significant, the third represents the number of zeros (e.g. 106 = 100,000 pfd = .1mfd)	→	106
TOLERANCE K=±10% G=±2% J=±5% F=±1%	→	K

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type MU12, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 0952 is the 52nd week of 2009, 0902 is the second week of 2009.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001-2000 and AS9100:2004 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

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