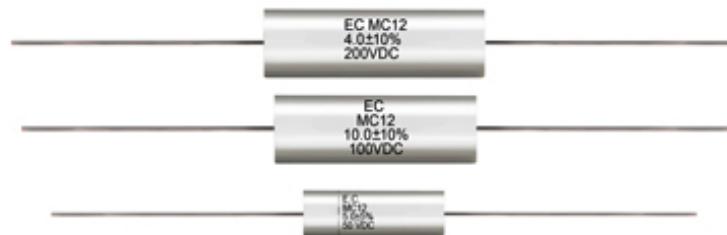


# MC12 SERIES

## Metallized Polycarbonate

### Metallized Polycarbonate Wrap & Fill Tubular Configuration

Metallized Polycarbonate Wrap and Fill Tubular Configuration.



#### FEATURES

- High Capacitance Density
- Low Temperature Coefficient
- High Insulation Resistance
- Dissipation factor less than 0.3%
- Excellent Retrace

#### STANDARD CONFIGURATION

- Wrap and fill tubular configuration with axial leads

# Specification Summary

Capacitance Range  
0.001 $\mu$ F to 20.0 $\mu$ F

Capacitance Tolerance  
Standard tolerance is  $\pm 10\%$ . Tolerances of  $\pm 5\%$ ,  $\pm 2\%$  and  $\pm 1\%$  are available.

Operating Temperature Range  
-55 $^{\circ}$ C to +125 $^{\circ}$ C

Enclosure/ Construction  
Extended metallized polycarbonate film (non-inductive).

Voltage Rating  
DC working voltage ratings at +125 $^{\circ}$ C, 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
- o Equivalent Series Resistance (ESR)

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

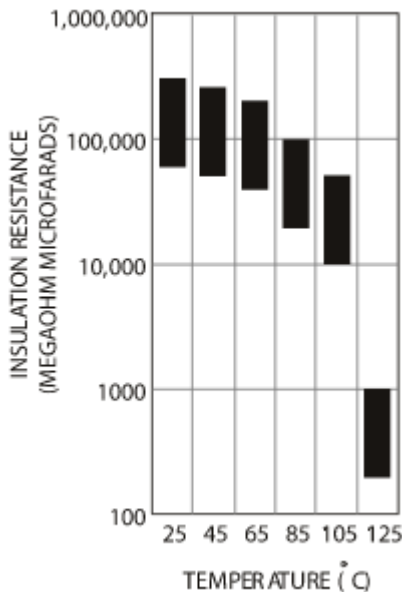
Environmental

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

## Characteristics

Insulation Resistance

Temperature( $^{\circ}$ C)	25	85	125	
Megaohmsx Microfarads	50,000	5,000	500	
Insulation Resistance				

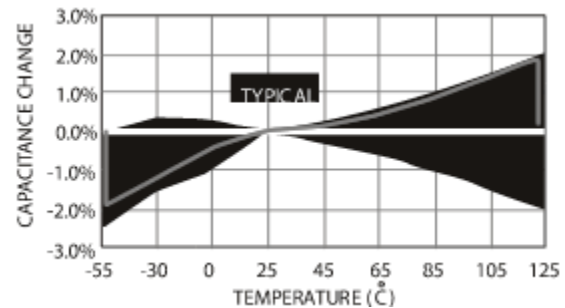


Dielectric Strength

Capacitors 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 $^{\circ}$ C.

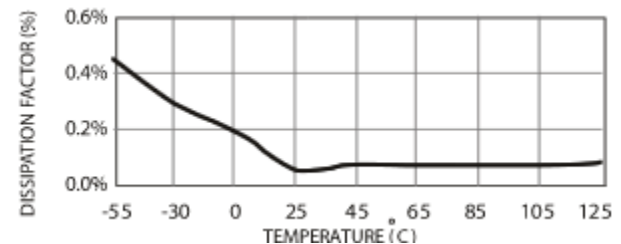
Capacitance Change

Temperature( $^{\circ}$ C)	-55	25	85	125
Percentage Change (typical)	-2.5	0	$\pm 1.0$	$\pm 2.0$
Capacitance Change				



Dissipation Factor

When measured at 1kHz, the dissipation factor shall not exceed 0.3% from +25 $^{\circ}$ C to +125 $^{\circ}$ C.



# ELECTRICAL DATA

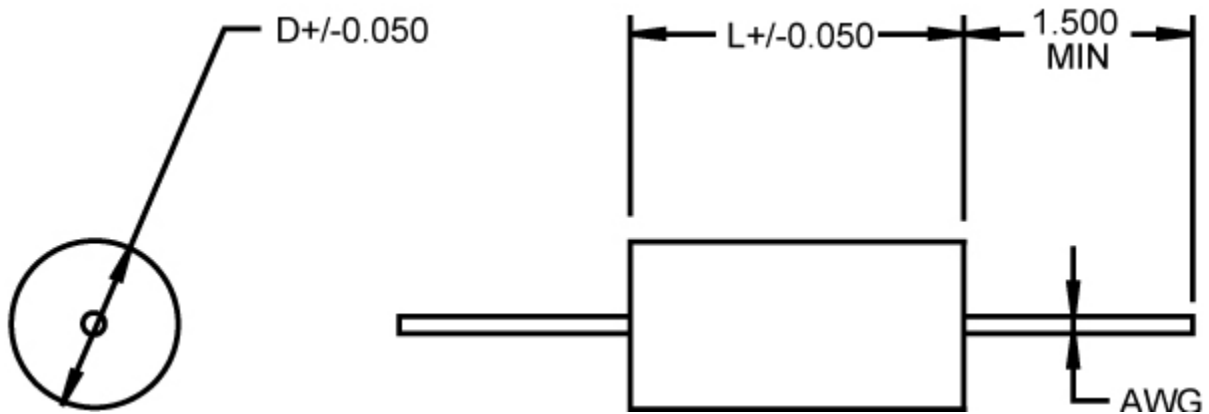
EC PART NUMBER	MFD	100 VDC			200 VDC			400 VDC		
		D			F			J		
		D	L	AWG	D	L	AWG	D	L	AWG
MC12_102_	0.0010	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_122_	0.0012	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_152_	0.0015	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_182_	0.0018	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_222_	0.0022	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_272_	0.0027	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_332_	0.0033	0.15	0.40	24	0.15	0.40	24	0.15	0.40	24
MC12_392_	0.0039	0.15	0.40	24	0.15	0.40	24	0.16	0.40	24
MC12_472_	0.0047	0.15	0.40	24	0.15	0.40	24	0.17	0.40	24
MC12_562_	0.0056	0.15	0.40	24	0.15	0.40	24	0.15	0.53	24
MC12_682_	0.0068	0.15	0.40	24	0.15	0.40	24	0.15	0.53	24
MC12_822_	0.0082	0.15	0.40	24	0.15	0.40	24	0.15	0.53	24
MC12_103_	0.0100	0.15	0.40	24	0.15	0.40	24	0.17	0.53	24
MC12_123_	0.0120	0.15	0.40	24	0.15	0.40	24	0.18	0.53	24
MC12_153_	0.0150	0.15	0.40	24	0.15	0.40	24	0.20	0.53	24
MC12_183_	0.0180	0.15	0.40	24	0.16	0.40	24	0.22	0.53	24
MC12_223_	0.0220	0.15	0.40	24	0.17	0.40	24	0.24	0.53	24
MC12_273_	0.0270	0.15	0.40	24	0.15	0.53	24	0.27	0.53	24
MC12_333_	0.0330	0.15	0.40	24	0.15	0.53	24	0.29	0.53	24
MC12_393_	0.0390	0.15	0.40	24	0.16	0.53	24	0.27	0.68	24
MC12_473_	0.0470	0.15	0.40	24	0.18	0.53	24	0.30	0.68	24
MC12_563_	0.0560	0.16	0.40	24	0.19	0.53	24	0.33	0.68	24
MC12_683_	0.0680	0.18	0.40	24	0.21	0.53	24	0.32	0.78	24
MC12_823_	0.0820	0.15	0.53	24	0.23	0.53	24	0.35	0.78	22
MC12_104_	0.1000	0.16	0.53	24	0.25	0.53	24	0.38	0.78	22
MC12_124_	0.1200	0.17	0.53	24	0.27	0.53	24	0.41	0.78	22
MC12_154_	0.1500	0.19	0.53	24	0.31	0.53	24	0.40	0.95	22
MC12_184_	0.1800	0.20	0.53	24	0.29	0.68	24	0.44	0.95	22
MC12_224_	0.2200	0.22	0.53	24	0.32	0.68	24	0.41	1.17	20
MC12_274_	0.2700	0.24	0.53	24	0.32	0.78	24	0.45	1.17	20
MC12_334_	0.3300	0.26	0.53	24	0.35	0.78	22	0.50	1.17	20
MC12_394_	0.3900	0.29	0.53	24	0.38	0.78	22	0.54	1.17	20
MC12_474_	0.4700	0.26	0.68	24	0.41	0.78	22	0.59	1.17	20
MC12_564_	0.5600	0.29	0.68	24	0.39	0.95	22	0.64	1.17	20
MC12_684_	0.6800	0.29	0.78	24	0.36	1.17	22	0.65	1.45	20
MC12_824_	0.8200	0.31	0.78	24	0.39	1.17	22	0.63	1.70	20
MC12_105_	1.0000	0.34	0.78	24	0.44	1.17	22	0.66	1.90	20
MC12_125_	1.2000	0.37	0.78	22	0.48	1.17	20	0.72	1.90	20
MC12_155_	1.5000	0.37	0.95	22	0.53	1.17	20	0.80	1.90	20
MC12_185_	1.8000	0.40	0.95	22	0.58	1.17	20	0.87	1.90	20
MC12_205_	2.0000	0.38	1.17	22	0.61	1.17	20	0.92	1.90	20
MC12_255_	2.5000	0.42	1.17	22	0.62	1.45	20	-	-	-
MC12_305_	3.0000	0.45	1.17	22	0.61	1.7	20	-	-	-
MC12_355_	3.5000	0.48	1.17	20	0.66	1.7	20	-	-	-
MC12_405_	4.0000	0.52	1.17	20	0.66	1.9	20	-	-	-
MC12_455_	4.5000	0.55	1.17	20	0.70	1.9	20	-	-	-
MC12_505_	5.0000	0.58	1.17	20	0.73	1.9	20	-	-	-
MC12_605_	6.0000	0.62	1.17	20	0.80	1.9	20	-	-	-
MC12_805_	8.0000	0.63	1.45	20	0.92	1.9	20	-	-	-

Note: The fifth character of the part number represents the DC voltage rating (i.e. D=100VDC, F=200VDC, etc.). Additionally, the tenth character of the part number represents the Tolerance (K= ±10%, J=±5%, G=±2%, F=±1%).

EC PART NUMBER	MFD	100 VDC			200 VDC			400 VDC		
		D			F			J		
		D	L	AWG	D	L	AWG	D	L	AWG
MC12_106_	10.0000	0.64	1.7	20	1.02	1.9	20	-	-	-
MC12_126_	12.0000	0.65	1.9	20	-	-	-	-	-	-
MC12_156_	15.0000	0.72	1.9	20	-	-	-	-	-	-
MC12_186_	18.0000	0.78	1.9	20	-	-	-	-	-	-
MC12_206_	20.0000	0.82	1.9	20	-	-	-	-	-	-

Note: The fifth character of the part number represents the DC voltage rating (i.e. D=100VDC, F=200VDC, etc.). Additionally, the tenth character of the part number represents the Tolerance (K=±10%, J=±5%, G=±2%, F=±1%).

## MECHANICAL DATA



## ADDITIONAL INFORMATION

Polycarbonate film capacitors are the superior choice for a wide range of electronic applications. That's why they've gained such broad acceptance and the first choice of circuit designers for decades. Now we're being told, that no longer is anyone going to produce the right grade of polycarbonate film. And once existing inventories are gone, well, these polycarbonate capacitors will be a thing of the past. NOT TRUE! We produce our own polycarbonate film in house. We always have, and we plan to continue to be a source. So, now you don't have to make that change, or be forced to settle for a substitute capacitor that doesn't offer the combined advantages of performance, reliability, compact size and cost!

Type MC12 is a versatile metallized polycarbonate capacitor offered in a wrap and fill tubular configuration with axial leads, designed for the following typical applications: commercial-industrial including analog and timing circuits, high frequency, and filter networks.

## HOW TO ORDER

TYPE Metallized Polycarbonate Dielectric	→	MC12
STYLE / VOLTAGE DC Voltage Rating: D=100VDC, F=200VDC, J=400VDC	→	D
CAPACITANCE IN PICO FARADS Expressed in Picofarads, the first two digits are significant figures. The third is the number of zeros.	→	106
TOLERANCE K=±10% Also available: J=±5%, G=±2%, F=±1%	→	K

### Marking and Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type MC12, 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.

## Sales Offices

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website: [www.ecicaps.com](http://www.ecicaps.com)

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