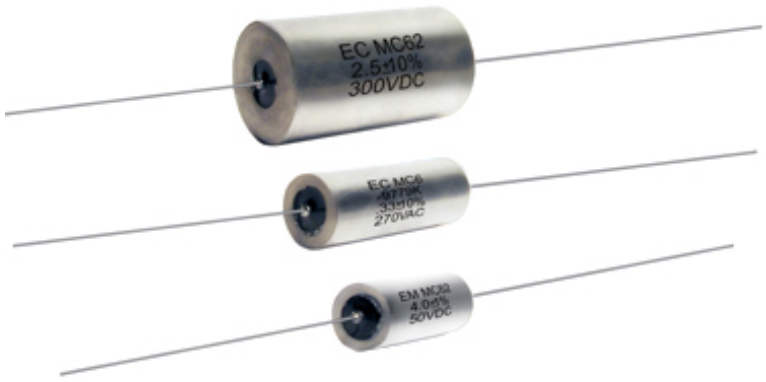
Electronic Concepts
Film Capacitor Innovation Without Limits

MC SERIES
Metallized Polycarbonate

Metallized Polycarbonate Hermetically Sealed

Metallized Polycarbonate - Hermetically Sealed



FEATURES
- High Volumetric Efficiency
- Self Healing Properties
- Low Loss Characteristics

STANDARD CONFIGURATION
- MC52 Metal tube,herm seal round without insulating sleeve axial leads insulated case
- MC54 Metal tube,herm seal round without
- insulating sleeve axial leads grounded to case
- MC62 Metal tube,herm seal round with clear, plastic insulating sleeve axial leads insulated case
- MC64 Metal tube,herm seal round with clear, plastic insulating sleeve axial leads grounded to case

Specification Summary

Capacitance Range
.001uF to 100uF

Capacitance Tolerance
Standard tolerance is ±10%. Tolerances of ±20%, ±5%, ±2%, ±1% are available.

Operating Temperature Range
-55°C to +125°C without derating

Enclosure/ Construction
Hermetically Sealed in metal tubes with glass-to-metal solder-sealed terminals

Voltage Rating
DC working voltages of 100VDC, 150VDC, 200VDC, 300VDC, and 400VDC are standard.

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.

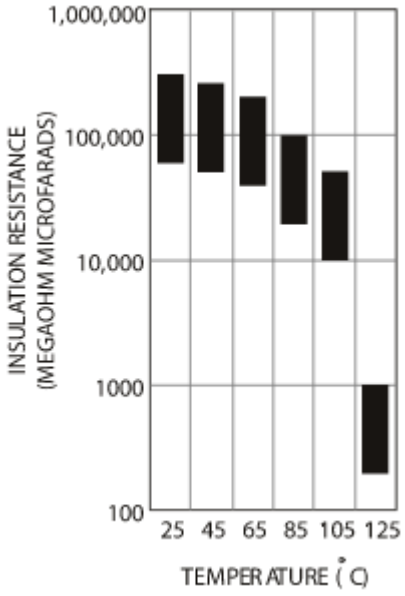
Environmental

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

Characteristics

Insulation Resistance

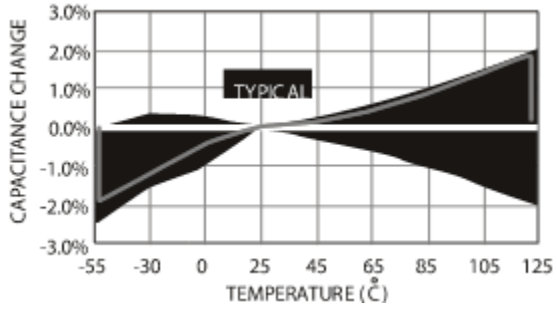
Temperature(°C)	25	85	125	
Megaohmsx Microfarads	100,000	7,000	700	
Insulation Resistance				



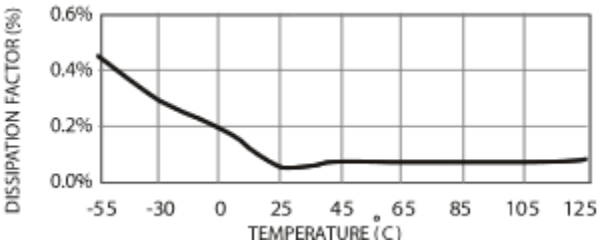
Dielectric Strength
Capacitors shall withstand a DC potential of 200% rated voltage for two minutes without damage. When the capacitor section is insulated from the case, the capacitors shall withstand a DC potential of 200% rated voltage applied between the case and the terminals.Test voltage must be applied and discharged through a resistance of 1 OHM per volt, minimum and at 25°C.

Capacitance Change

Temperature(°C)	-55	25	85	125
PercentageChange (typical)	±1.5	0	±0.3	±0.8
CapacitanceChange				



Dissipation Factor
When measured at the frequency specified for capacitance measurements, the dissipation factor shall not exceed 0.3% from +25°C to +125°C.



Electronic Concepts

Rev. 4

ELECTRICAL DATA

EC PART NUMBER	CAP (µF)	100 VDC			150 VDC			200 VDC		
		D			E			F		
		D	L	G	D	L	G	D	L	G
MC52_103K	0.010	0.174	0.625	24	0.174	0.625	24	0.174	0.625	24
MC52_123K	0.012	0.174	0.625	24	0.174	0.625	24	0.174	0.625	24
MC52_153K	0.015	0.174	0.625	24	0.174	0.625	24	0.174	0.625	24
MC52_183K	0.018	0.174	0.625	24	0.174	0.625	24	0.193	0.625	24
MC52_223K	0.022	0.174	0.625	24	0.174	0.625	24	0.193	0.625	24
MC52_273K	0.027	0.174	0.625	24	0.193	0.625	24	0.235	0.625	22
MC52_333K	0.033	0.174	0.625	24	0.193	0.688	24	0.235	0.625	22
MC52_393K	0.039	0.174	0.625	24	0.193	0.688	24	0.235	0.688	22
MC52_473K	0.047	0.193	0.625	24	0.235	0.625	22	0.235	0.688	22
MC52_563K	0.056	0.193	0.625	24	0.235	0.688	22	0.312	0.625	22
MC52_683K	0.068	0.235	0.625	22	0.235	0.688	22	0.312	0.625	22
MC52_823K	0.082	0.235	0.625	22	0.312	0.625	22	0.312	0.688	22
MC52_104K	0.100	0.235	0.688	22	0.312	0.688	22	0.312	0.688	22
MC52_124K	0.120	0.235	0.688	22	0.312	0.688	22	0.312	0.812	22
MC52_154K	0.150	0.312	0.625	22	0.312	0.812	22	0.312	0.812	22
MC52_184K	0.180	0.312	0.625	22	0.312	0.812	22	0.400	0.688	20
MC52_224K	0.220	0.312	0.688	22	0.312	0.812	22	0.400	0.812	20
MC52_274K	0.270	0.312	0.688	22	0.400	0.812	20	0.400	0.812	20
MC52_334K	0.330	0.312	0.812	22	0.400	0.812	20	0.400	0.938	20
MC52_394K	0.390	0.312	0.812	22	0.400	0.812	20	0.400	0.938	20
MC52_474K	0.470	0.400	0.688	20	0.400	0.938	20	0.400	1.125	20
MC52_564K	0.560	0.400	0.812	20	0.400	1.125	20	0.400	1.312	20
MC52_684K	0.680	0.400	0.812	20	0.400	1.125	20	0.500	1.125	20
MC52_824K	0.820	0.400	0.938	20	0.500	0.938	20	0.500	1.125	20
MC52_105K	1.000	0.400	0.938	20	0.500	1.125	20	0.562	1.125	20
MC52_125K	1.200	0.500	0.938	20	0.500	1.125	20	0.562	1.312	20
MC52_155K	1.500	0.500	0.938	20	0.500	1.312	20	0.562	1.312	20
MC52_185K	1.800	0.500	1.125	20	0.562	1.312	20	0.562	1.812	20
MC52_205K	2.000	0.500	1.125	20	0.562	1.312	20	0.562	1.812	20
MC52_225K	2.200	0.500	1.125	20	0.562	1.562	20	0.562	1.812	20
MC52_275K	2.700	0.562	1.312	20	0.562	1.812	20	0.670	1.562	20
MC52_305K	3.000	0.562	1.312	20	0.562	1.812	20	0.750	1.562	20
MC52_335K	3.300	0.562	1.312	20	0.562	1.812	20	0.750	1.812	20
MC52_395K	3.900	0.562	1.562	20	0.670	1.812	20	0.750	1.812	20
MC52_475K	4.700	0.670	1.312	20	0.670	1.812	20	0.750	2.062	20
MC52_505K	5.000	0.670	1.312	20	0.750	1.562	20	0.750	2.062	20
MC52_565K	5.600	0.670	1.312	20	0.750	1.812	20	0.750	2.312	20
MC52_685K	6.800	0.670	1.562	20	0.750	2.063	20	1.000	1.812	20
MC52_825K	8.200	0.670	1.812	20	0.750	2.375	20	1.000	2.062	20
MC52_106K	10.000	0.750	1.812	20	0.750	2.625	20	1.000	2.312	20
MC52_126K	12.000	0.750	1.812	20	1.000	1.875	20	1.000	2.563	18
MC52_156K	15.000	1.000	1.875	20	1.000	2.125	20	1.125	2.687	18
MC52_186K	18.000	1.000	1.875	20	1.000	2.625	18	1.250	2.687	18
MC52_206K	20.000	1.000	1.875	20	1.000	2.875	18	1.250	2.687	18
MC52_226K	22.000	1.000	1.875	20	1.125	2.937	18	1.250	2.937	18
MC52_256K	25.000	1.000	2.125	20	1.250	2.687	18	1.390	2.937	18
MC52_276K	27.000	1.000	2.125	20	1.250	2.687	18	1.390	2.937	18
MC52_306K	30.000	1.000	2.375	20	1.250	2.937	18	1.390	3.187	18
MC52_336K	33.000	1.000	2.625	18	1.250	2.937	18	1.390	3.187	18
MC52_396K	39.000	1.000	2.875	18	1.390	2.937	18	1.500	3.187	18

Note: The fifth character of the part number represents the DC voltage rating (i.e. D=100VDC, E=150VDC, etc.).

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EC PART NUMBER	CAP (µF)	100 VDC			150 VDC			200 VDC		
		D			E			F		
		D	L	G	D	L	G	D	L	G
MC52_476K	47.000	1.125	2.937	18	1.500	2.937	18	-	-	-
MC52_506K	50.000	1.250	2.937	18	1.500	3.187	18	-	-	-
MC52_566K	56.000	1.250	2.937	18	1.500	3.187	18	-	-	-
MC52_686K	68.000	1.390	2.937	18	-	-	-	-	-	-
MC52_756K	75.000	1.390	2.937	18	-	-	-	-	-	-
MC52_826K	82.000	1.390	3.187	18	-	-	-	-	-	-
MC52_906K	90.000	1.390	3.187	18	-	-	-	-	-	-
MC52_107K	100.000	1.500	3.187	18	-	-	-	-	-	-

Note: The fifth character of the part number represents the DC voltage rating (i.e. D=100 VDC, E=150 VDC, etc.).

EC PART NUMBER	CAP (µF)	300 VDC			400 VDC		
		H			J		
		D	L	G	D	L	G
MC52_103K	0.010	0.193	0.688	24	0.235	0.688	22
MC52_123K	0.012	0.235	0.688	22	0.235	0.812	22
MC52_153K	0.015	0.235	0.688	22	0.235	0.812	22
MC52_183K	0.018	0.235	0.812	22	0.235	0.812	22
MC52_223K	0.022	0.235	0.812	22	0.312	0.688	22
MC52_273K	0.027	0.312	0.688	22	0.312	0.812	22
MC52_333K	0.033	0.312	0.688	22	0.312	0.812	22
MC52_393K	0.039	0.312	0.812	22	0.312	0.938	22
MC52_473K	0.047	0.312	0.812	22	0.400	0.812	20
MC52_563K	0.056	0.312	0.938	22	0.400	0.812	20
MC52_683K	0.068	0.312	0.938	22	0.400	0.938	20
MC52_823K	0.082	0.400	0.812	20	0.400	0.938	20
MC52_104K	0.100	0.400	0.938	20	0.400	1.125	20
MC52_124K	0.120	0.400	0.938	20	0.400	1.312	20
MC52_154K	0.150	0.400	1.125	20	0.400	1.312	20
MC52_184K	0.180	0.400	1.312	20	0.562	1.125	20
MC52_224K	0.220	0.400	1.312	20	0.562	1.125	20
MC52_274K	0.270	0.562	1.125	20	0.562	1.312	20
MC52_334K	0.330	0.562	1.125	20	0.562	1.562	20
MC52_394K	0.390	0.562	1.125	20	0.562	1.562	20
MC52_474K	0.470	0.562	1.562	20	0.562	1.812	20
MC52_564K	0.560	0.562	1.562	20	0.670	1.562	20
MC52_684K	0.680	0.670	1.312	20	0.670	1.812	20
MC52_824K	0.820	0.670	1.562	20	0.750	1.812	20
MC52_105K	1.000	0.670	1.812	20	0.750	2.062	20
MC52_125K	1.200	0.670	1.812	20	1.000	1.812	20
MC52_155K	1.500	0.750	2.062	20	1.000	1.812	20
MC52_185K	1.800	0.750	2.062	20	1.000	2.062	20
MC52_205K	2.000	0.750	2.062	20	1.000	2.062	20
MC52_225K	2.200	1.000	1.812	20	1.000	2.312	20
MC52_275K	2.700	1.000	1.812	20	1.000	2.562	20
MC52_305K	3.000	1.000	2.062	20	1.000	2.687	18
MC52_335K	3.300	1.000	2.312	20	-	-	-
MC52_395K	3.900	1.000	2.562	20	-	-	-

Note: The fifth character of the part number represents the DC voltage rating (i.e. H=300 VDC, J=400 VDC, etc.).

Additional Information

High volumetric efficiency which results in small, lightweight units. This is particularly important to designers of equipment where space is at a premium. Self-healing properties assuring greater operational reliability. Low loss characteristics and high current carrying capabilities make these capacitors especially suitable for specialized AC and RF applications. Applications for these capacitors include tuned circuits, analog computer reference capacitors and precision timing and integrating circuits.

HOW TO ORDER

TYPE Metallized Polycarbonate →	MC
STYLE / VOLTAGE 5=Metal tube, hermetically sealed round without insulating sleeves; 6=Metal tube, hermetically sealed round with clear plastic insulating sleeves. / D=100VDC, E=150VDC, F=200VDC, H=300VDC, J=400VDC →	52 D
CAPACITANCE IN PICOFARADS The first two digits are significant, the third represents the number of zeros (e.g. 104 = 100,000 pfd = .1mfd) →	104
TOLERANCE Standard tolerance is ±10% : Tolerances of ±20%, ±5%, ±2%, ±1% are available. →	K

Marking And Date Code
All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type MC, 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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