

5MPF SERIES

Polypropylene Capacitor with Fuseac® Technology

Cylindrical Can with Radial Terminals and Mounting Bolt

Polypropylene film capacitor for AC applications. Internal fuse electrically disconnects when capacitor's hot spot reaches a defined temperature.



FEATURES

- AC rated
- Range: -40°C to +85°C
- Dry film construction
- Permanent thermal disconnect, preventing catastrophic failures
- Inverter output filtering, for Wye and Delta circuits

STANDARD CONFIGURATION

- Bolt Mounting Package

Specification Summary

Capacitance Range

10 μ F to 250 μ F

Capacitance Tolerance

Standard tolerances are $\pm 5\%$ & $\pm 3\%$.

Operating Temperature Range

-40°C to +85°C

Enclosure/Construction

Polypropylene film capacitor in a cylindrical aluminum housing with high current threaded terminations and mounting bolt

Voltage Rating

Maximum AC working voltage ratings at 85°C, 300, 600 and 900 VAC at 60Hz Maximum

Quality Control

Capacitors are tested 100% for:

- Capacitance
- Tolerance
- Dissipation Factor
- Dielectric withstanding voltage
- Insulation Resistance
- Equivalent Series Resistance (ESR)

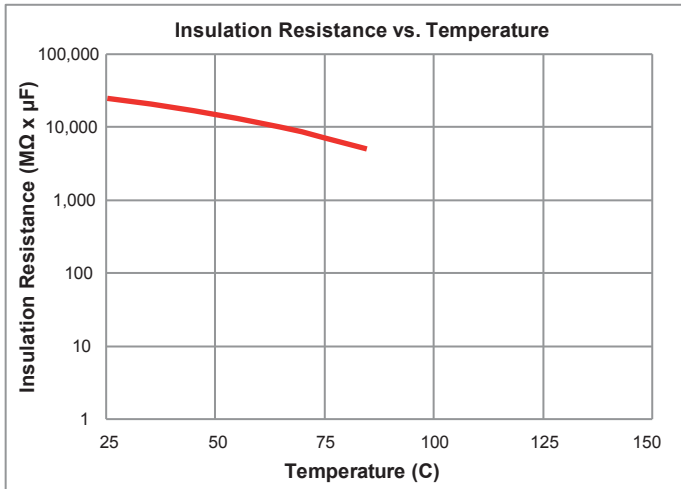
Process and inspection data are maintained on file and available upon special request.

Environmental

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

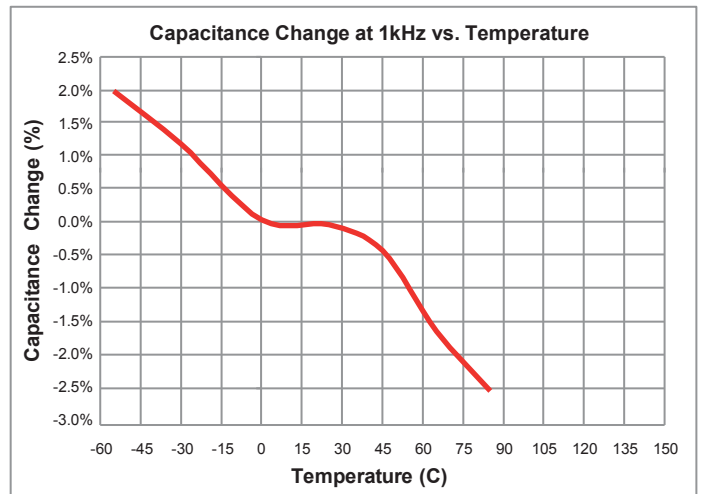
Reference MIL-STD-202

Characteristics



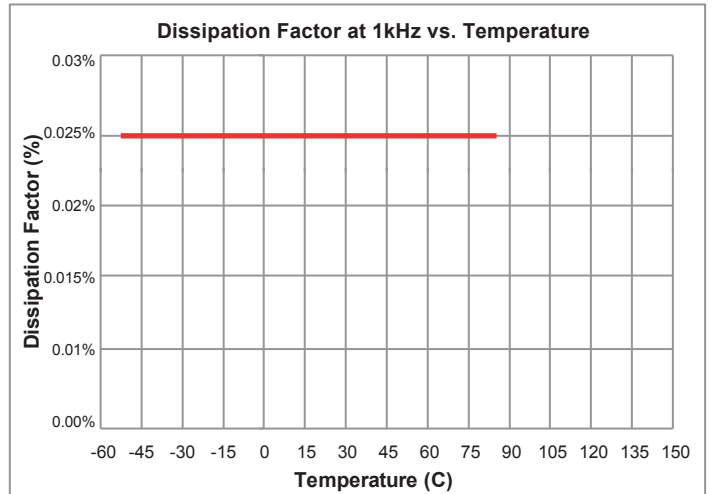
Dielectric Strength

Capacitors withstand a DC potential of 1.5 times rated DC voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a minimum resistance of 1 OHM per volt, minimum.



Dissipation Factor

Polypropylene has an intrinsic dissipation factor of less than 2.1×10^{-4} over the operating temperature range of -55°C to +105°C and frequencies to 1MHz.

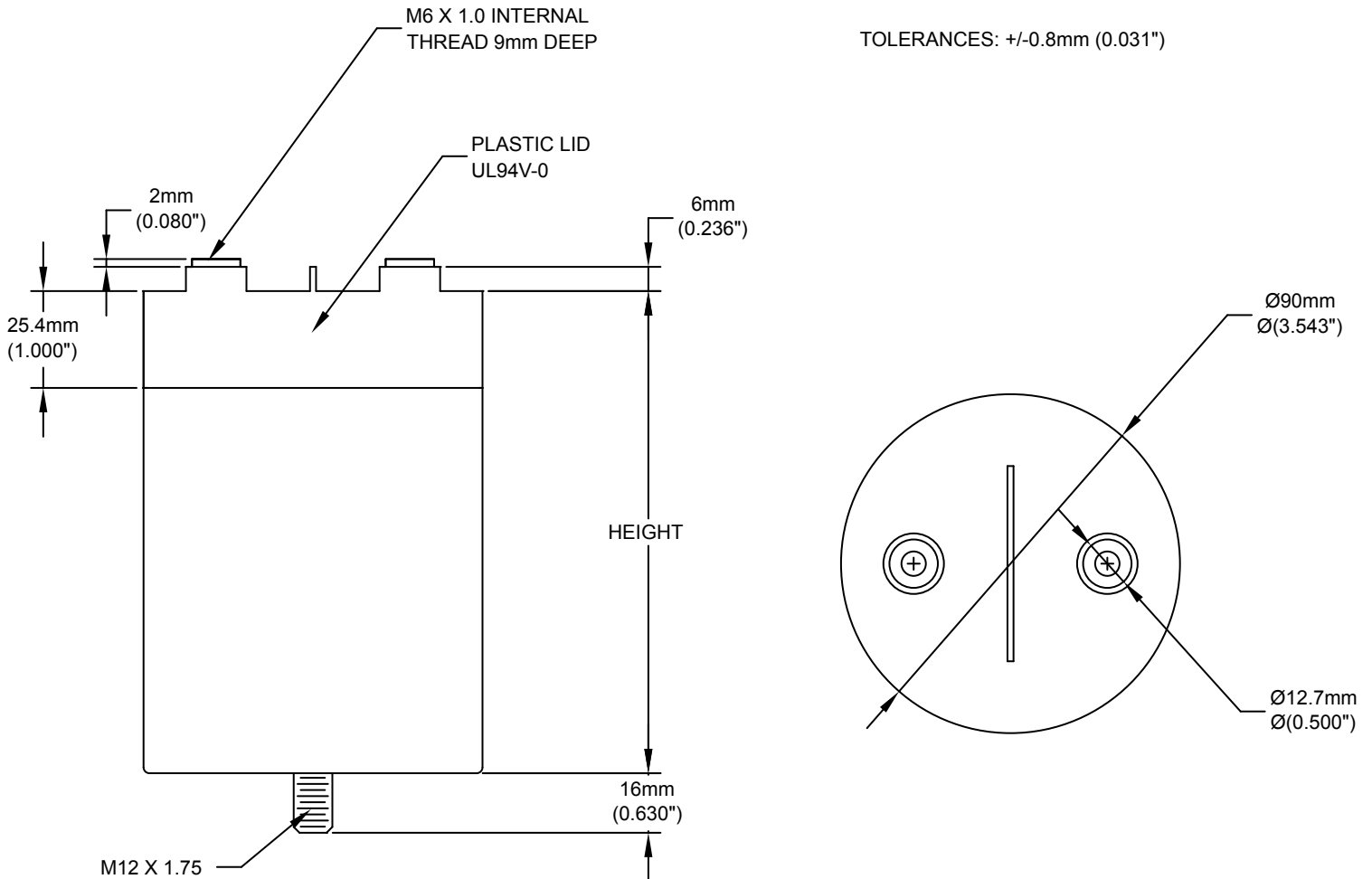


Detail Data

PART NUMBER	CAP μF	VAC	VDC	HEIGHT "H"		ESR mOhms	ESL nH	Fres kHz	I PEAK AMPS	dv/dt (V/μs)	TEMPERATURE Arms				Rth °C/W
				in	mm						25°C	45°C	65°C	85°C	
5MPF1107_	100	300	450	3.031	77	2.2	49	72.1	3324	33	63.0	53.4	41.7	25.0	7.68
5MPF1157_	150	300	450	4.016	102	3.4	79	46.3	3227	22	53.3	45.2	35.3	21.2	7.01
5MPF1207_	200	300	450	5.000	127	4.6	110	33.9	3180	16	46.4	39.4	30.7	18.4	6.87
5MPF1257_	250	300	450	5.984	152	5.8	143	26.6	3153	13	40.4	34.3	26.7	16.0	7.21
5MPF2206_	20	600	900	3.031	77	2.7	49	161.2	2709	135	52.6	44.6	34.8	20.9	8.80
5MPF2406_	40	600	900	4.409	112	3.9	90	83.9	3167	79	49.8	42.2	33.0	19.8	7.00
5MPF2506_	50	600	900	5.000	127	4.4	110	68.2	3313	66	47.9	40.6	31.7	19.0	6.76
5MPF2606_	60	600	900	5.984	152	5.8	143	54.6	3126	52	40.1	34.0	26.5	15.9	7.29
5MPF3106_	10	900	1350	3.031	77	2.2	49	225.3	3429	343	62.3	52.8	41.2	24.7	7.48
5MPF3156_	15	900	1350	4.016	102	3.1	79	146.5	3547	236	56.7	48.1	32.5	22.5	6.62
5MPF3206_	20	900	1350	5.000	127	4.5	110	107.2	3305	165	47.5	40.3	31.4	18.8	6.72
5MPF3256_	25	900	1350	5.984	152	5.8	143	84.1	3175	127	40.4	34.3	26.8	16.0	7.19

Notes: (1) ESR is Measured at Resonant Frequency (2) Current referenced at 10kHz (3) VAC rating at 60Hz

Style



Additional Information

Fuseac® technology was created to provide designers of power management systems, utilizing metallized dry film capacitors, with a superior protection mechanism. Electronic Concepts, Inc. has developed a revolutionary fuse to detect the capacitor's hot spot and electrically disconnect upon reaching a defined critical value. Metallized film capacitors, mainly due to self healing of inherent defects, are reliable and long lasting over the life of the product. Fuseac® provides added insurance against disastrous failures.

Fuseac® is a patented technology and on request can be incorporated in a host of Electronic Concepts' products, especially into designs needing added overheating protection.

How to Order

TYPE Metallized Polypropylene	→	5MP
STYLE/VOLTAGE AC High Power, F1(300VAC)-F2(600VAC)-F3(900VAC)	→	F2
CAPACITANCE IN PICOFARADS The first two digits are significant, the third represents the number of zeros (eg 506=50,000,000)	→	506
TOLERANCE J=±5% Also available: E=±3%	→	J

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type 5MPF, 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., 1252 is the 52nd week of 2012, 1202 is the second week of 2012.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001 and AS9100 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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