

3MP SERIES

Metallized Polypropylene

Dry Film Low Loss AC Filter Capacitor

UL recognized component. Designed to handle high RMS currents for today's high energy AC filtering applications.



FEATURES

- UL RECOGNIZED
- Long Life: > 100,000 Hours
- Low ESR
- High RMS Current Capability
- High Surge Voltage Capability: 1.5 x VDC
- Flame Retardant
- Cost Effective Design
- Reference MIL-STD 202 & IEC 61071
- Flexible, Dry Film Fully Encapsulated Construction

STANDARD CONFIGURATION

- Integrated Mounting
- Male Terminal Option
- Female Terminal Option
- Thermal Indicator Option

Specification Summary

Enclosure/ Construction

Dry metallized polypropylene in a thermoplastic housing with flame retardant potting. All construction materials meet or exceed UL94-V2 rating

UL file number: File E225556, Vol. 1

Capacitance Range

20 μ F - 325 μ F

Capacitance Tolerance

Standard tolerance is $\pm 5\%$. Tolerance of $\pm 3\%$ is also available.

Operating Temperature Range

-55°C to +85°C

Hot Spot Temperature Calculation: $H.S. = T_{amb} + (I \times I \times R_s)$

Voltage Rating

VAC: 300VAC to 900VAC VDC:450VDC to 1350VDC

Quality Control

Capacitors are tested 100% for:

- Capacitance
- Tolerance
- Dissipation Factor
- 1.5x Rated DC Voltage
- Insulation Resistance
- Equivalent Series Resistance

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

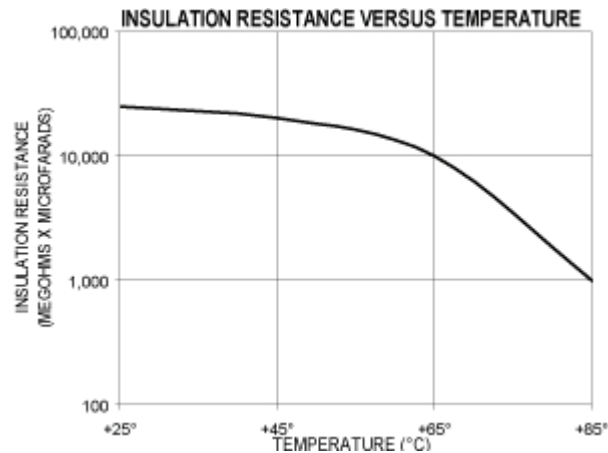
Complies with IEC 61071

Characteristics

INSULATION RESISTANCE

Temperature(°C)	25	85		
Megaohms x Microfarads	25,000	5,000		

Insulation Resistance



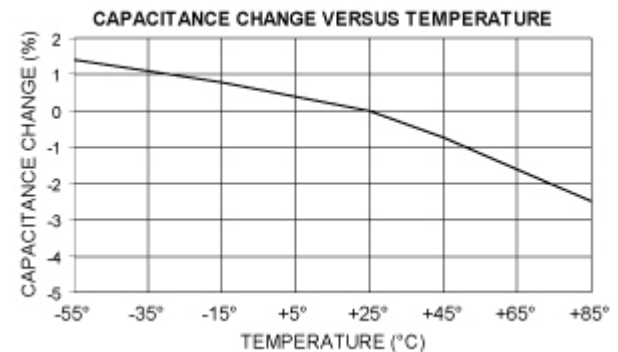
DIELECTRIC STRENGTH

Capacitors withstand a DC potential of 1.5 x Rated 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.

CAPACITANCE CHANGE

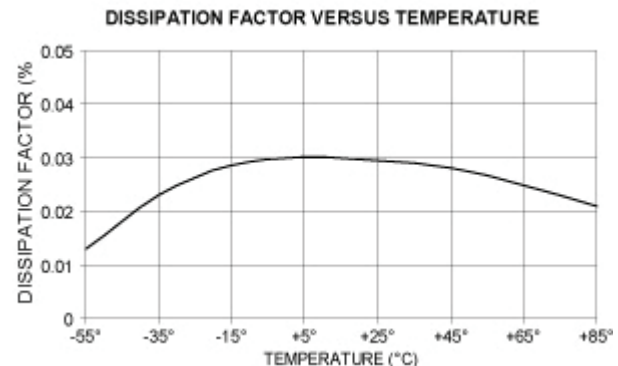
Temperature(°C)	-55	25	85	
Percentage Change (Typical)	1.4	0	-2.5	

Capacitance Change



DISSIPATION FACTOR

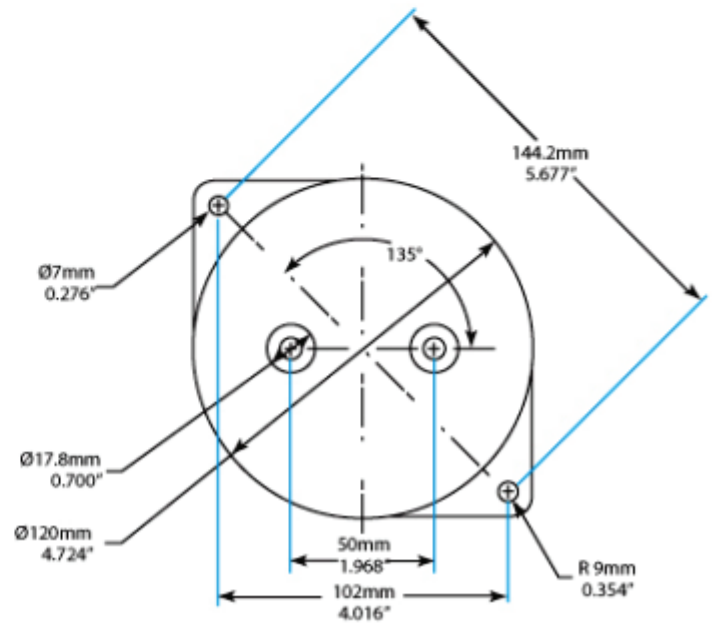
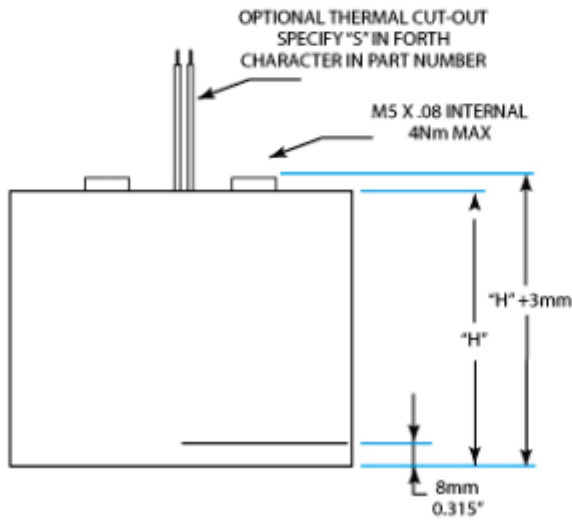
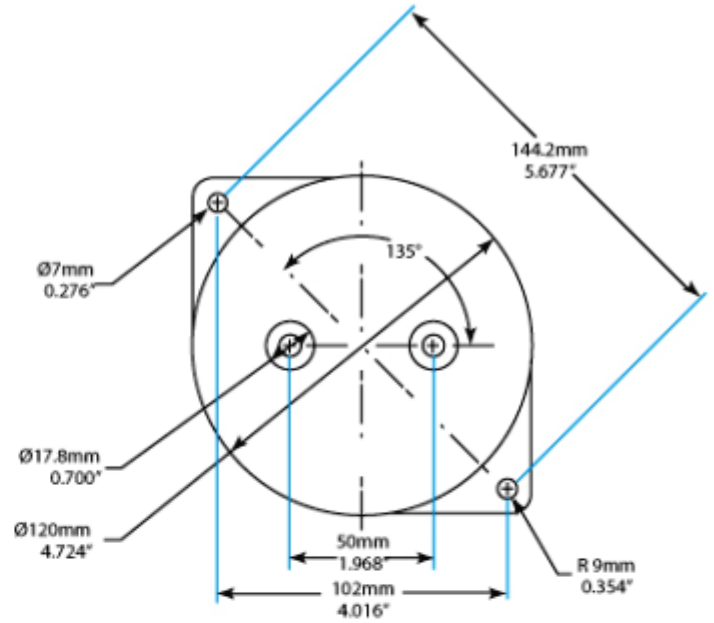
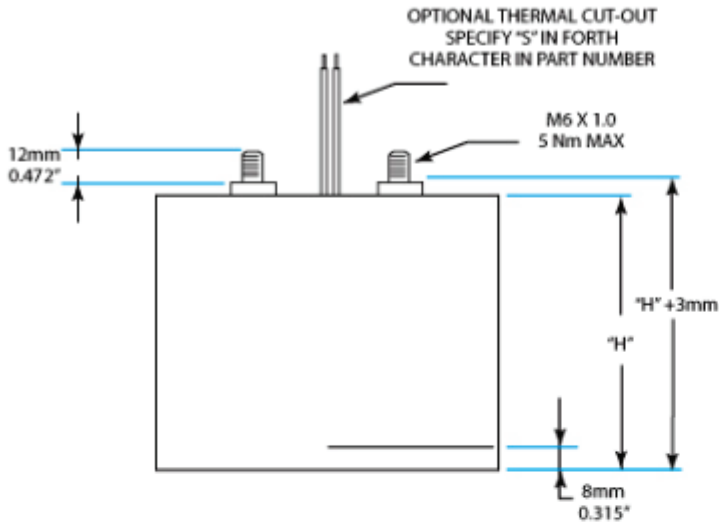
When measured at the frequency specified for capacitance measurement, the dissipation factor will not exceed 0.1%.



Detail Data

EC PART NUMBER	VAC	VDC	CAP μ F	HEIGHT (mm)	ESR mOhms	ESL nH	Fres kHz	dv/dt V/ μ s	I PEAK AMPS	Max RMS Current (10 kHz)				Rth $^{\circ}$ C/W
										25 $^{\circ}$ C	45 $^{\circ}$ C	65 $^{\circ}$ C	85 $^{\circ}$ C	
3MP_1157J_	300	450	150	63	0.8	35	69.5	45	6813	139	118	92	55	4.5
3MP_1207J_	300	450	200	75	1.1	40	56.3	33	6619	121	103	80	48	4.3
3MP_1327J_	300	450	325	100	1.6	50	39.5	21	6969	106	90	70	42	3.9
3MP_2706J_	530	750	70	63	0.9	35	101.7	118	8270	136	116	90	54	4.2
3MP_2926J_	530	750	92	100	1.9	50	74.2	73	6677	93	79	61	37	4.3
3MP_2137J_	530	750	130	100	1.4	50	62.4	66	8755	111	94	73	44	3.9
3MP_3356J_	600	900	35	63	0.8	35	143.8	203	7112	137	117	91	55	4.4
3MP_3506J_	600	900	50	75	1.1	40	112.5	145	7257	124	105	82	49	4.2
3MP_3906J_	600	900	90	100	1.7	50	68.5	79	7125	101	86	67	40	3.9
3MP_4206J_	900	1350	20	75	1.3	40	177.9	343	6858	113	96	75	45	4.1
3MP_4306J_	900	1350	30	100	1.6	50	118.6	236	7094	105	89	70	42	3.9

STYLE



OPTIONAL THERMAL CUT-OUT AT CAPACITOR HOT SPOT

- NORMALLY CLOSED, OPENS AT 85°C ±5%
- CONTACT RESISTANCE: <50 Milliohms
- Vr: 250 Vrms
- Leads: #24 AWG (UL3398), 2.5" LEAD LENGTH MINIMUM

Additional Information

The 3MP series is designed to handle high RMS currents for today's high energy AC filtering applications. This series has a robust integrated flange for versatile mounting positions along with male and female terminal options. Its most unique feature is that it has been outfitted to accept a thermal sensing device located at the capacitor hot spot. A normally closed thermal cut-out (TCO) is potted in the geometric center of the device. As the capacitor reaches critical temperatures the TCO opens and a user defined circuit will trigger the appropriate action. The capacitor can also accept other sensing technology per customer specification.

How to Order

TYPE - 3MP Metalized Polypropylene	→	3MP
STYLE A-No thermal cut-off, S-With thermal cut-off	→	A
VOLTAGE 1- 300 VAC, 2- 530 VAC, 3- 600 VAC 4- 900 VAC.	→	1
Capacitance in Microfarads	→	150
Capacitance in μ F	→	150
TOLERANCE E- +/-3%, J- +/-5%.	→	J
TERMINAL STYLE 1- Male Thread (M6), 2- Female Thread (M5)	→	1

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or ECtrademark — in addition to type 3MP, 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 ISO9001-2000 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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