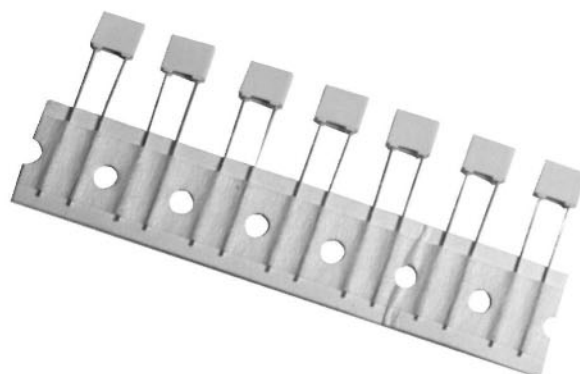


METALIZED POLYESTER FILM CAPACITOR

MSC Series

INTRODUCTION :

◆ **MSC Series** capacitor are are non-inductively wound with metallized Polyester as dielectric / electrode with tinned leads with epoxy resin coating. They are suitable for blocking, filtering, by-pass, coupling, decoupling and timing circuits with application in telecommunication, data processing, industrial instruments and automatic control system equipments.



FEATURES :

- ◆ Space-saving miniature size.
- ◆ Plate by aluminum layer deposited by evaporation under vacuum..
- ◆ Non-inductive construction, Self-healing property.
- ◆ Flame-retardant plastic case and epoxy resin (compliance with UL94V-O).
- ◆ High-moisture resistance.



SPECIFICATION :

1. **OPERATING TEMPERATURE** : -25°C ~ + 105°C .
2. **CAPACITANCE RANGE** : 1000 pF ~ 1.5 μF.
3. **CAPACITANCE TOLERANCE** :
± 5% (J), ± 10% (K), ± 20% (M).
4. **RATED VOLTAGE** : 50, 63, 100 VDC.
5. **CAPACITANCE VALUES** : E6 series (IEC 63 Norm).
6. **TOTAL SELF-INDUCTANCE (L)** : 7 μH
(Lead length-2 mm).
7. **DISSIPATION FACTOR (DF)** : to $\delta \times 10^{-4}$ at +25°C±5°C

KHz	C ≤ 0.1 μF	C > 0.1 μF
1	≤ 1 %	≤ 1 %
10	≤ 1.5 %	≤ 1.5 %
100	≤ 3 %	

8. INSULATION RESISANCE (IR) :

Testing when
 50 VDC for VR < 100 VDC.
 100 VDC for VR ≥ 100 VDC.
 for 1 minute at 25°C

Performance :

For VR ≤ 100 VDC

i) IR > 10,000 MΩ for C ≤ 0.1 μF (50000 MΩ).

ii) IR > 1,000 MΩ for C ≤ 0.1 μF (5000 MΩ).

For VR > 100 VDC

IR > 30,000 MΩ (50000 MΩ).

9. TYPICAL VALUE :

Test voltage between termination : 1.6 x VR applied for 2 s at +25°C±5°C.

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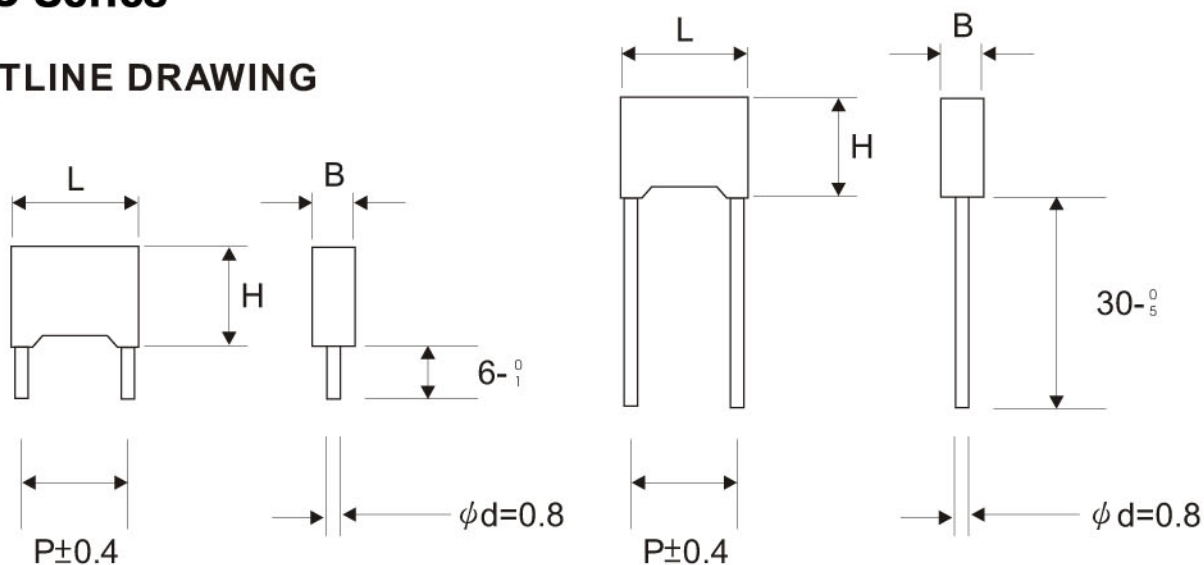
MSC Series

ITEM		PERFORMANCE		TEST CONDITION
Life test (85°C)		Insulation resistance : Not less than 50% of the : initial limit		Test temperature : 85°C ± 2°C Applied voltage : 1.25 VR Duration : t = 1000 ± 72 hours.
		Tangent of the loss angle: $\Delta \text{tg } \delta$: ≤ 0.01 at 1 KHz.		
		Capacitance : Within ± 10 % of initial value.		
		Visual examination : There shall be no mechanical damage.		
Resistance to solvent	Visual examination :	There shall be no mechanical Damage		Re : IEC 68-2-45 Test XA Method 1 Solvent : 1,1,2, trichlorotrifluoroethane (70±5% in weight) + 2 propanol (isopropyl-alcohol) (30±5% in weight) Temperature : 23±2°C Duration of immersion : 5±0.5 min Drying : 5 min Rubbing : 10 (with cotton-wool)
Solderability		More than 3/4 of circumference surface of lead wire shall be covered with new solder.		Solder bath at the temperature of 235 ± 5°C. Dipping time : 2 ± 0.5 sec. The leads of the capacitor shall be dipped into the flux (about 10% rosin) and then dipped in the solder bath.
Resistance to Soldering heat	Capacitance	Within ± 2% of initial value.		Solder temperature : 260 ± 5°C . Dipping time : 5 ± 1 sec.
	Visual examination	There shall be no mechanical damage		
Stability at low and high temperature	Cold	Capacitance	Within 0.....-6% of initial value.	Test temperature : -40 ± 2°C.
	Dry heat	Insulation resistance	1/10 of initial limit	Test temperature : +85 ± 2°C.
		Capacitance	Within 0.....+5% of initial value.	
	Dry heat	Insulation resistance	≥ 1/20 of initial limit	Test temperature : +85 ± 2°C .
Capacitance		Within 0.....+8% of initial value.		
Damp heat (Steadystate)	Dielectric strength (between terminals)	≥ 1/20 of initial limit There shall be no dielectric breakdown (at 66% of 4.4 Un)		Test temperature : +40 ± 2°C.
	Insulation resistance	Not less than 50% of the initial limit		Humidity : 93 to 96% R.H.
	Tangent of loss angle	$\Delta \text{tan } \delta \leq 0.01$ (at 1 KHz)		Duration : 21 days.
	Capacitance	Within 0.....+5% of initial value.		
	Visual examination	There shall be no mechanical damage		

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MSC Series

OUTLINE DRAWING



Unit-mm

RATED CAPACITANCE	50 VDC / 30 VAC				63 VDC / 40 VAC				100 VDC / 63 VAC			
	B	H	L	P	B	H	L	P	B	H	L	P
1000 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
1500 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
2200 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
3300 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
4700 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
6800 pF	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.010 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.015 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.022 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.033 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.047 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.068 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.10 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.15 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.22 μ F	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0	2.5	6.5	7.2	5.0
0.33 μ F	3.5	7.5	7.2	5.0	3.5	7.5	7.2	5.0	3.5	7.5	7.2	5.0
0.47 μ F	3.5	7.5	7.2	5.0	3.5	7.5	7.2	5.0	3.5	7.5	7.2	5.0
0.68 μ F	5.0	10	7.2	5.0	5.0	10	7.2	5.0	5.0	10	7.2	5.0
1.0 μ F	5.0	10	7.2	5.0	5.0	10	7.2	5.0	5.0	10	7.2	5.0
1.5 μ F	6.0	11	7.2	5.0	6.0	11	7.2	5.0	6.0	11	7.2	5.0