

SMD Metallized Polyester Film Capacitor

Related Document: IEC 60384-19, CECC 32 200

MAIN APPLICATIONS:

Blocking, bypassing, filtering and timing, high frequency coupling and decoupling of fast digital and analog IC's, interference suppression in low voltage applications.

MARKING:

Manufacturer's logo/C-value/rated voltage/tolerance/

DIELECTRIC:

Polyester film

ELECTRODES:

Vacuum deposited aluminum

COATING:

Plastic moulded, black, flame retardant material

(UL-class 94 V-0)

CONSTRUCTION:

Stacked metallized film (refer to general information)

CONTACTS:

Tinned nickel silver tape (Cu/Ni/Zn)

IEC TEST CLASSIFICATION:

55/125/21, according to IEC 60068

TEMPERATURE RANGE:

- 55°C to + 125°C

CAPACITANCE RANGE:

0.01µF to 1µF

CAPACITANCE TOLERANCES:

± 20% (M), ± 10% (K), ± 5% (J)

RATED VOLTAGES (U_R):

40 VDC, 63 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz:

25 VAC, 40 VAC

TEST VOLTAGE (ELECTRODE/ELECTRODE):

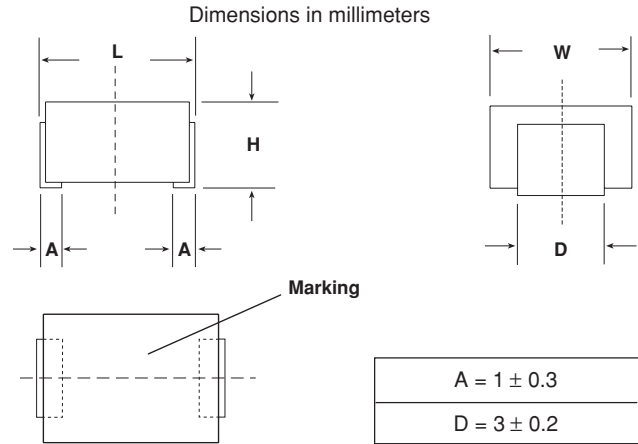
1.6 x U_R for 2 s

INSULATION RESISTANCE:

Measured with 50 VDC (40 VDC measured with U_R) after one minute

For C ≤ 0.33µF:

3750 MΩ minimum value (50,000 MΩ typical value)



TIME CONSTANT:

Measured with 50 VDC (40 VDC measured with U_R) after one minute

For C > 0.33µF:

1250 s minimum value (10,000 s typical value)

DERATING FOR DC AND AC.

CATEGORY VOLTAGE U_C:

At + 85°C: U_C = 1.0 U_R

At + 100°C: U_C = 0.8 U_R

At + 125°C: U_C = 0.5 U_R (maximum 1000 hours)

CAPACITANCE DRIFT:

Up to + 40°C, ± 1.5% for a period of two years

SELF INDUCTANCE:

~ 4 nH

RELIABILITY:

Operational life > 300,000 h

Failure rate < 5 FIT (40°C and 0.5 x U_R)

All parts are supplied in moisture-proof plastic bags. After opening, the capacitors have to be assembled (soldered) under standard atmospheric conditions within 24 hours.

For further details, please refer to the general information provided in this catalog.

MAXIMUM PULSE RISE TIME

CAPACITOR LENGTH (mm)	Maximum pulse rise time d _v /d _t [V/µs]	
	40 VDC	63 VDC
7.2	30	50

If the maximum pulse voltage is less than the rated voltage higher dv/dt values can be permitted.

DISSIPATION FACTOR TAN δ

MEASURED AT	C ≤ 0.1µF	C > 1.0µF
1kHz	8 x 10 ⁻³	8 x 10 ⁻³
10kHz	15 x 10 ⁻³	15 x 10 ⁻³
100kHz	25 x 10 ⁻³	—
Maximum values		

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 04 40 VDC/25 VAC			VOLTAGE CODE 06 63 VDC/40 VAC		
		L ±0.2	W ±0.2	H ±0.2	L ±0.2	W ±0.2	H ±0.2
0.01 μF	- 310	—	—	—	7.2	4.9	3.1
0.015 μF	- 315	—	—	—	7.2	4.9	3.1
0.022 μF	- 322	—	—	—	7.2	4.9	3.1
0.033 μF	- 333	—	—	—	7.2	4.9	3.1
0.047 μF	- 347	—	—	—	7.2	4.9	3.1
0.068 μF	- 368	—	—	—	7.2	4.9	3.1
0.1 μF	- 410	—	—	—	7.2	4.9	3.1
0.15 μF	- 415	—	—	—	7.2	6.8	4.0
0.22 μF	- 422	—	—	—	7.2	6.8	4.0
0.33 μF	- 433	—	—	—	7.2	6.8	4.0
0.47 μF	- 447	—	—	—	7.2	6.8	4.0
0.68 μF	- 468	7.2	6.8	4.0	—	—	—
1.0 μF	- 510	7.2	6.8	4.0	—	—	—

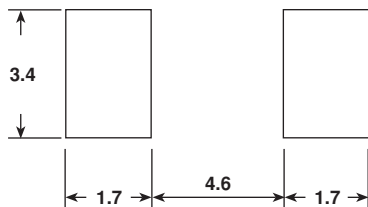
Further values on request.

RECOMMENDED PACKAGING

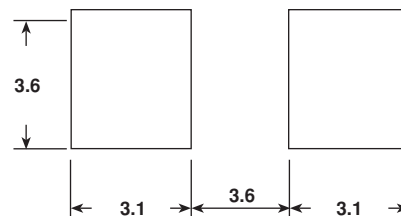
LETTER CODE	TYPE OF PACKAGING	REEL DIAMETER (mm)	ORDERING CODE EXAMPLE	SMD
—	REEL	180	MKT 1824-433/065	X
W	REEL	330	MKT 1824-433/065-W	X

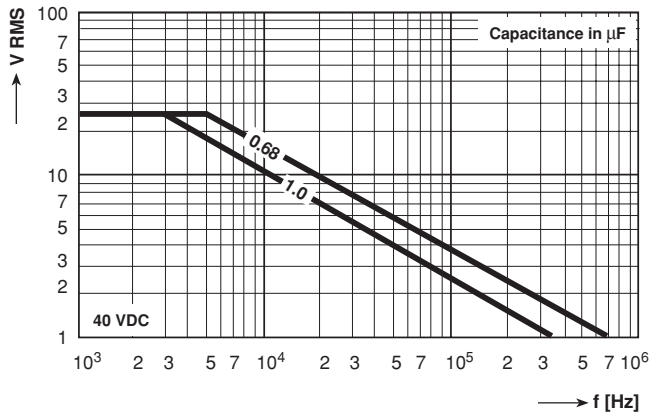
RECOMMENDED PAD SIZES

REFLOW SOLDERING

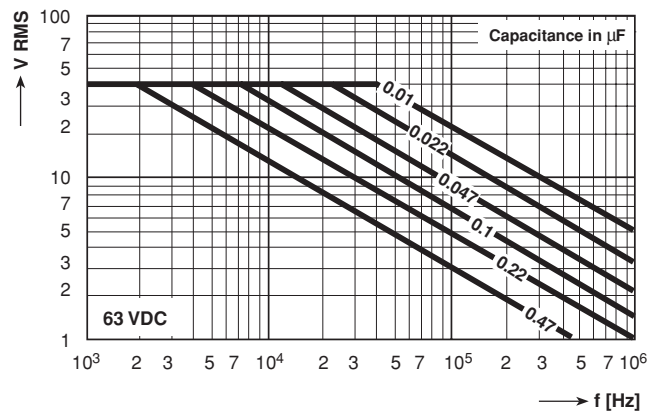


WAVE SOLDERING

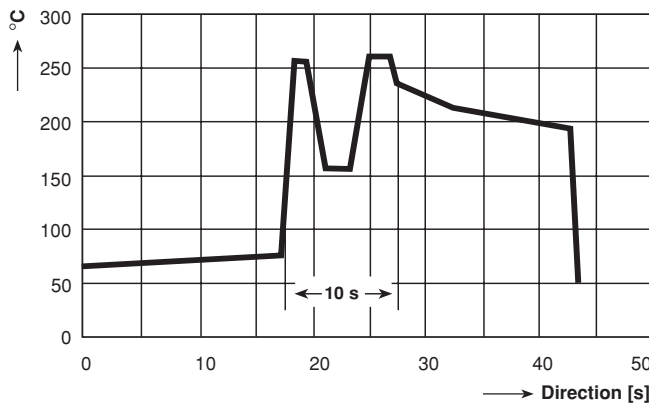




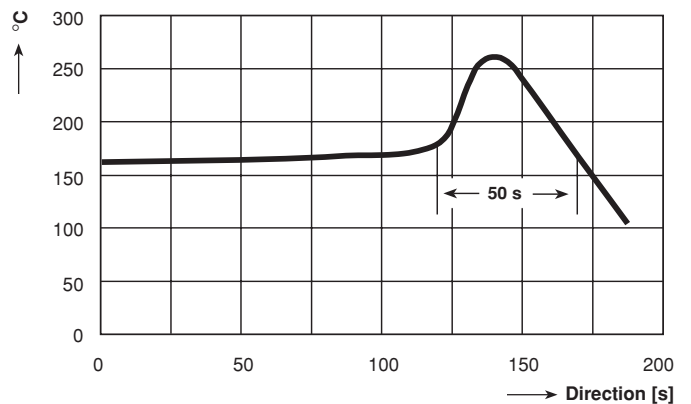
Permissible AC Voltage versus Frequency



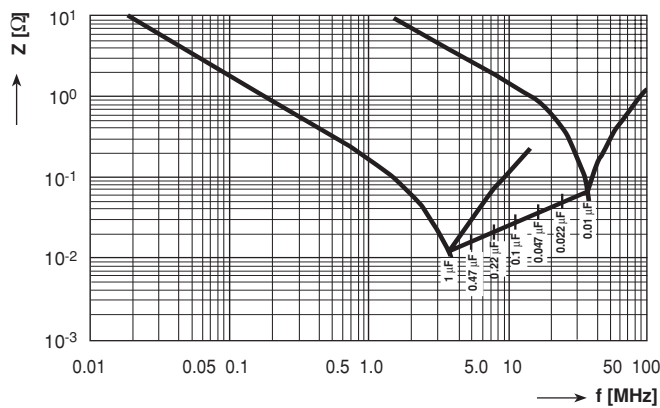
Permissible AC Voltage versus Frequency



Temperature/Time Profile for Double Wave Soldering (maximum data)



Temperature/Time Profile for Reflow Infrared Soldering (maximum data)



Impedance Z as a function of frequency $Z = f(f)$, measured at 20°C