



# CAPACITORS – Model MKT1826



## Metallized Polyester Film Capacitor

### FEATURES

- **Package Size:** 2.5 mm x 7.2 mm x 6.5 mm to 7.2 mm x 7.2 mm x 13.0 mm
- **Capacitance:** 1000 pF to 4.7  $\mu$ F
- **Tolerance:**  $\pm$  5%,  $\pm$  10%, and  $\pm$  20%
- **Voltage:** 40 VDC, 50 VDC, 63 VDC, 100 VDC, and 250 VDC
- **Operating Temperature:** - 55  $^{\circ}$ C to + 125  $^{\circ}$ C, or - 55  $^{\circ}$ C to + 100  $^{\circ}$ C
- **Pulse Rise Time:** 120 V/ $\mu$ s to 350 V/ $\mu$ s
- **Related Document:** IEC 60384-2, CECC 30400
- Environmentally friendly lead (Pb)-free sintering layers and terminals

### APPLICATIONS

- **Telecommunications:** Line cards
- **Automotive:** Motor management
- **Consumer:** Audio/video (including TV sets and monitors)
- **Industry:** Control circuits, E-ballasts

# Metallized Polyester Film Capacitor

## Related Document: IEC 60384-2

**MAIN APPLICATIONS:**

Blocking, bypassing, filtering and timing, high frequency coupling and decoupling of fast digital circuits. Interference suppression in low voltage applications. High pulse load. High temperature operations.

**MARKING:**

Manufacturer's logotype/C-value/rated voltage/tolerance/date of manufacture

**DIELECTRIC:**

Polyester film

**ELECTRODES:**

Vacuum deposited aluminum

**COATING:**

Flame retardant plastic case (UL-class 94 V-0), green, epoxy resin sealed

**CONSTRUCTION:**

Stacked metallized polyester film

**LEADS:**

Tinned wire

**IEC TEST CLASSIFICATION:**

55/125/56, according to IEC 60068  
55/100/21 (for 4.7µF/40 VDC)

**OPERATING TEMPERATURE RANGE:**

-55°C to +125°C  
-55°C to +100°C (for 4.7µF/40 VDC)

**CAPACITANCE RANGE:**

1000pF to 4.7µF

**CAPACITANCE TOLERANCES:**

± 20% (M), ± 10% (K), ± 5% (J)

**RATED VOLTAGES (U<sub>R</sub>):**

40 VDC, 50 VDC, 63 VDC, 100 VDC, 250 VDC

**PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz:**

25 VAC, 30 VAC, 40 VAC, 63 VAC, 160 VAC

**TEST VOLTAGE (ELECTRODE/ELECTRODE):**

1.6 x U<sub>R</sub> for 2 sec.

**INSULATION RESISTANCE:**

Measured at 100 VDC (50 VDC and 63 VDC series measured at 50 VDC) after one minute

**For C ≤ 0.33µF and U<sub>R</sub> > 100 VDC:**

30,000 MΩ minimum value (100,000 MΩ typical value)

**For C ≤ 0.33µF and U<sub>R</sub> ≤ 100 VDC:**

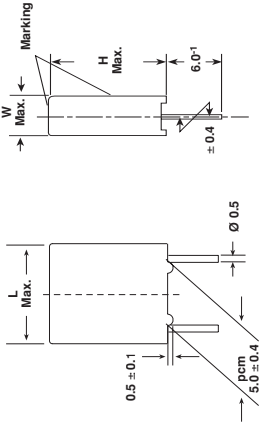
15,000 MΩ minimum value (100,000 MΩ typical value)

**MAXIMUM PULSE RISE TIME**

PCM (mm)	Maximum pulse rise time d <sub>v</sub> /dt [V/µs]		
	40 VDC	50 VDC	250 VDC
5.0	120	160	350
		200	240

If the maximum pulse voltage is less than the rated voltage higher d<sub>v</sub>/dt values can be permitted.

Dimensions in millimeters


**TIME CONSTANT:**

Measured at 100 VDC (50 VDC and 63 VDC series measured at 50 VDC, 40 VDC measured with U<sub>R</sub>) after one minute

**For 0.33µF < C ≤ 3.3µF and U<sub>R</sub> ≤ 100 VDC:**

5000 s minimum value (15,000 s typical value)

**For C > 3.3µF and U<sub>R</sub> ≤ 100 VDC:**

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

**CAPACITANCE DRIFT:**

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

**DERATING FOR DC AND AC. CATEGORY VOLTAGE U<sub>C</sub>:**

At + 85°C: U<sub>C</sub> = 1.0 U<sub>R</sub>

At + 100°C: U<sub>C</sub> = 0.8 U<sub>R</sub>

At + 125°C: U<sub>C</sub> = 0.5 U<sub>R</sub> (maximum 1000 h)

**SELF INDUCTANCE:**

~ 6 nH measured with 2mm long leads

**PULL TEST ON LEADS:**

≥ 30 N in direction of leads according to IEC 60068-2-21

**RELIABILITY:**

Operational life > 300,000 hz

Failure rate < 2 FIT (40°C and 0.5 x U<sub>R</sub>)

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

**DISSIPATION FACTOR TAN δ**

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

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 04 40 VDC/ 25 VAC			VOLTAGE CODE 05 50 VDC/ 30 VAC			VOLTAGE CODE 06 63 VDC/ 40 VAC			VOLTAGE CODE 01 100 VDC/ 63 VAC			VOLTAGE CODE 25* 250 VDC/ 160 VAC		
		W	H	L	W	H	L	W	H	L	W	H	L	W	H	L
1000 pF	-210	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1500 pF	-215	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200 pF	-222	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300 pF	-233	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700 pF	-247	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800 pF	-268	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.01 µF	-310	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.015 µF	-315	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.022 µF	-322	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.033 µF	-333	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.047 µF	-347	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.068 µF	-368	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.10 µF	-410	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.15 µF	-415	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.22 µF	-422	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.33 µF	-433	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.47 µF	-447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0.68 µF	-468	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.0 µF	-510	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.5 µF	-515	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.2 µF	-522	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.3 µF	-533	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4.7 µF*	-547	7.2	13.0	7.2	—	—	—	—	—	—	—	—	—	—	—	—

Further C-values on request.

\*CECC approval in preparation.

**RECOMMENDED PACKAGING**

LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLE	PCM
D	AMMO	16.5	S*	MKT 1826-533-055-D	X
G	AMMO	18.5	S*	MKT 1826-533-055-G	X
F	REEL	16.5	350	MKT 1826-533-055-F	X
W	REEL	18.5	350	MKT 1826-533-055-W	X
—	BULK	—	—	MKT 1826-533-055	X

\*S = box size 55 x 210 x 340mm (W x H x L).

Revision: 02-Dec-03