

## Metallized Polypropylene Film Capacitor

### Related Document: IEC 60384-16, CECC 31 200

**MAIN APPLICATIONS:**

Oscillator, timing and LC/RC filter circuits, high frequency coupling/decoupling, sample and hold circuits.

**MARKING:**

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

**DIELECTRIC:**

Polypropylene film

**ELECTRODES:**

Vacuum deposited aluminum

**COATING:**

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

**CONSTRUCTION:**

Extended metallized film (refer to general information)

**LEADS:**

Tinned wire

**IEC TEST CLASSIFICATION:**

55/100/56, according to IEC 60068

**OPERATING TEMPERATURE RANGE:**

- 55°C to + 100°C

**CAPACITANCE RANGE:**

0.01μF to 0.1μF

**CAPACITANCE TOLERANCES:**

± 10% (K), ± 5% (J), ± 2.5% (H), ± 1% (F)

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

160 VDC

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

100 VAC

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

1.6 x U<sub>R</sub> for 2 s

**INSULATION RESISTANCE:**

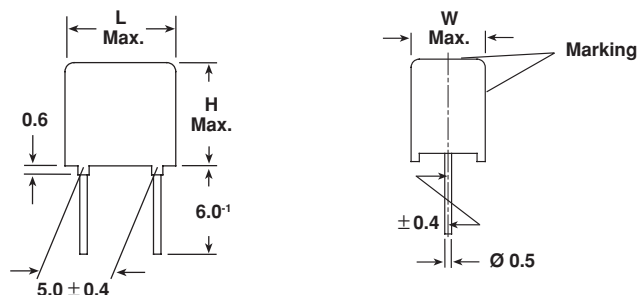
Measured at 100 VDC after one minute

100,000 MΩ minimum value

**TEMPERATURE COEFFICIENT:**

- 250°C x 10<sup>-6</sup>/°C (typical value)

Dimensions in millimeters

**CAPACITANCE DRIFT:**

Up to + 40°C, < 0.5% for a period of two years

**MAXIMUM PULSE RISE TIME:**

$d_v/d_t = 390 \text{ V}/\mu\text{s}$

If the maximum pulse voltage is less than the rated voltage, higher  $d_v/d_t$  values can be permitted.

**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> = 0.7 U<sub>R</sub>

**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

**DIELECTRIC ABSORPTION:**

0.05% (typical value) acc. to IEC 60384-1

**RELIABILITY:**

Operational life > 300,000 h

Failure rate < 5 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
1kHz	0.4 x 10 <sup>-3</sup>
10kHz	0.6 x 10 <sup>-3</sup>
100kHz	4 x 10 <sup>-3</sup>
	Maximum values



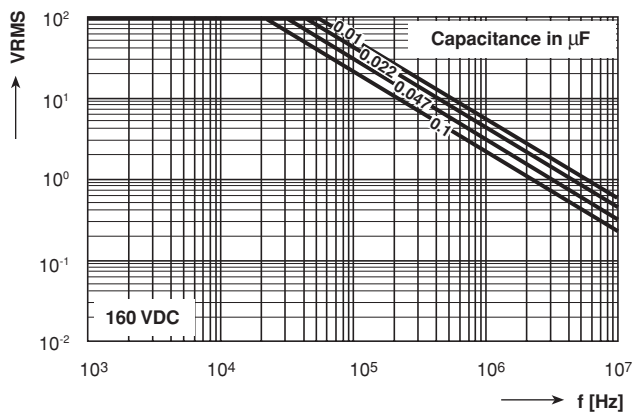
CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 16 160 VDC/100 VAC		
		W	H	L
0.01 $\mu\text{F}$	- 310	5.5	7.0	7.5
0.015 $\mu\text{F}$	- 315	5.5	7.0	7.5
0.022 $\mu\text{F}$	- 322	5.5	7.0	7.5
0.033 $\mu\text{F}$	- 333	7.5	9.0	7.5
0.047 $\mu\text{F}$	- 347	7.5	9.0	7.5
0.068 $\mu\text{F}$	- 368	7.5	9.0	7.5
0.1 $\mu\text{F}$	- 410	9.0	11.0	7.5

Further C-values upon request

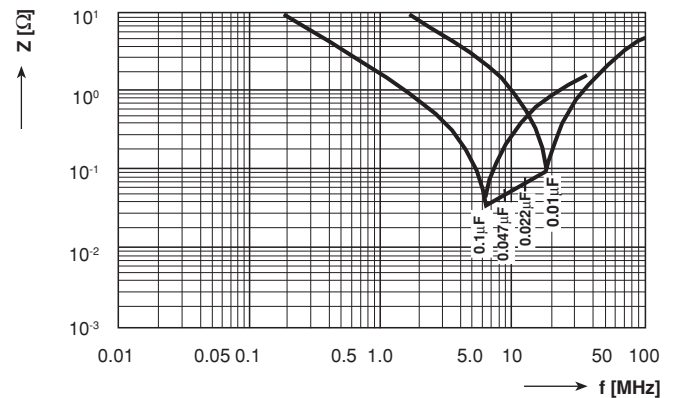
**RECOMMENDED PACKAGING**

LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLE	PCM 5
D	AMMO	16.5	S*	MKP 1837-322-162-D	X
G	AMMO	18.5	S*	MKP 1837-322-162-G	X
F	REEL	16.5	350	MKP 1837-322-162-F	X
W	REEL	18.5	350	MKP 1837-322-162-W	X
—	BULK	—	—	MKP 1837-322-162	X

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



Permissible AC Voltage versus Frequency

Impedance versus Frequency  $Z = f(f)$   
(Lead length 2.0mm)