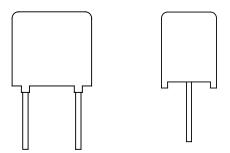




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Vishay Roederstein

# Metallized Polypropylene Film Capacitor Radial AC and Pulse Capacitor



#### **FEATURES**

- Mounting: radial
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>



# RoHS

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HALOGEN
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#### **APPLICATIONS**

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

QUICK REFERENCE DATA							
Capacitance range	0.01 μF to 0.1 μF						
Capacitance tolerance	± 10 % (K); ± 5 % (J); ± 2.5 % (H); ± 1 % (F)						
Climatic testing class according to IEC 60068	55/100/56						
Dielectric	Polypropylene film						
Electrodes	Vacuum deposited aluminum						
Construction	Extended metallized film (refer to general information)						
Coating	Flame retardant plastic case (UL-class 94 V-0), epoxy resin sealed						
Leads	Tinned wire						
Marking	Manufacturer's logo, type, C-value, rated voltage, tolerance, date of manufacture						
Operating temperature range	-55 °C to +100 °C						
Capacitance drift	Up to +40 °C, < 0.5 % for a period of two years						
Rated DC voltages (U <sub>R</sub> )	160 V <sub>DC</sub>						
Permissible AC voltages (RMS) up to 60 Hz	100 V <sub>AC</sub>						
Test voltage (electrode/electrode)	1.6 x U <sub>R</sub> for 2 s						
Insulation resistance	Measured at 100 $V_{DC}$ after one minute 100 000 $M\Omega$ minimum value						
Temperature coefficient	-250 °C x 10 <sup>-6</sup> /°C (typical value)						
Maximum pulse rise time	dV/dt = 390 V/µs  If the maximum pulse voltage is less than the rated voltage, higher dV/dt 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 2 mm long leads						
Pull test on leads	≥ 30 N in direction of leads according to IEC 60068-2-21						
Dielectric absorption	0.05 % (typical value) according to IEC 60384-1						
Reliability	Operational life > 300 000 h Failure rate < 5 FIT (40 °C and 0.5 x U <sub>R</sub> )						
Dissipation factor tan $\delta$	MEASURED AT	C ≤ 0.1 μF					
	1 kHz	0.4 x 10 <sup>-3</sup>					
	10 kHz	0.6 x 10 <sup>-3</sup>					
	100 kHz 4 x 10 <sup>-3</sup>						
	Maximum values						

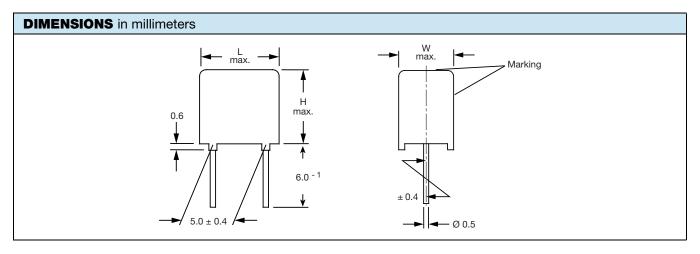
#### Note

• For further details, please refer to the general information available at www.vishay.com/doc?26033



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LECTRICA	ECTRICAL DATA								
U <sub>RDC</sub>	VOLTAGE CODE	CAP. (μF)	CAPACITANCE CODE	V <sub>AC</sub>	DIMENSIONS W x H x L (mm)				
		0.010	-310		5.5 x 7.0 x 7.5				
		0.015	-315		5.5 x 7.0 x 7.5				
		0.022	-322		5.5 x 7.0 x 7.5				
160 16	0.033	-333	100	7.5 x 9.0 x 7.5					
		0.047	-347		7.5 x 9.0 x 7.5				
		0.068	-368		7.5 x 9.0 x 7.5				
		0.1	-410		9.0 x 11.0 x 7.5				

#### Note

• Further C-values upon request

RECOMMENDED PACKAGING							
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER / BOX SIZE (mm)	ORDERING CODE EXAMPLES	PCM 5		
D	Ammo	16.5	55 x 210 x 340	MKP1837-322-162-D	Х		
G	Ammo	18.5	55 x 210 x 340	MKP1837-322-162-G	Х		
F	Reel	16.5	350	MKP1837-322-162-F	Х		
W	Reel	18.5	350	MKP1837-322-162-W	Х		
-	Bulk	-	-	MKP1837-322-162	Х		

# SPACE REQUIREMENTS FOR PRINTED-CIRCUIT BOARD APPLICATIONS AND DIMENSION TOLERANCES

For the maximum product dimensions and maximum space requirements for length (I<sub>max</sub>), width (w<sub>max</sub>) and height (h<sub>max</sub>) following tolerances must be taken in account in the envelopment of the components as shown in the drawings below:

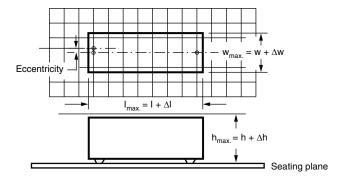
- For products with pitch  $\leq$  15 mm,  $\Delta w = \Delta l = 0.3$  mm and  $\Delta h = 0.1$  mm
- For products with 15 mm < pitch  $\leq$  27.5 mm,  $\Delta w = \Delta l = 0.5$  mm and  $\Delta h = 0.1$  mm
- $\bullet$  For products with pitch = 37.5 mm,  $\Delta w = \Delta I = 0.7$  mm and  $\Delta h = 0.5$  mm
- For products with pitch = 52.5 mm,  $\Delta w = \Delta l = 1.0$  mm and  $\Delta h = 0.5$  mm



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Eccentricity defined as in drawing. The maximum eccentricity is smaller than or equal to the lead diameter of the product concerned.

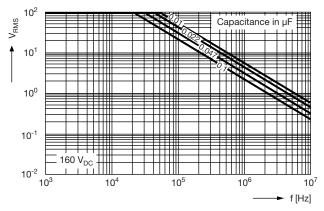


For the minimum product dimensions for length ( $I_{min.}$ ), width ( $w_{min.}$ ), and height ( $h_{min.}$ ) following tolerances of the components are valid:

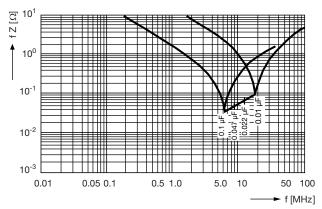
 $I_{min.} = I - \Delta I$ ,  $w_{min.} = w - \Delta w$  and  $h_{min.} = h - \Delta h$  following

- For products with pitch  $\leq$  10 mm,  $\Delta l = 0.3$  mm and  $\Delta w = \Delta h = 0.3$  mm
- For products with pitch = 15 mm,  $\Delta l = 0.5$  mm and  $\Delta w = \Delta h = 0.5$  mm
- For products with 15 mm < pitch  $\leq$  = 27.5 mm,  $\Delta I$  = 1.0 mm and  $\Delta w$  =  $\Delta h$  = 0.5 mm
- For products with pitch = 37.5 mm,  $\Delta l = 1.0$  mm and  $\Delta w = \Delta h = 1.0$  mm
- For products with pitch = 52.5 mm,  $\Delta l = 1.5$  mm and  $\Delta w = \Delta h = 1.0$  mm

#### **CHARACTERISTICS**



Permissible AC Voltage vs. Frequency



Impedance vs. Frequency Z = f(f) (Lead Length 2.0 mm)



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