VISHAY

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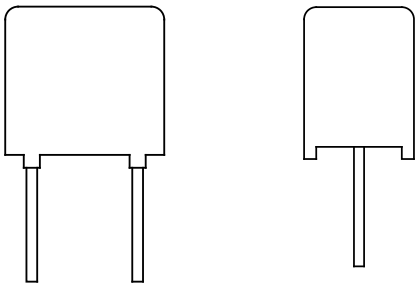
MKP1837

Vishay Roederstein

Metallized Polypropylene Film Capacitor
Radial AC and Pulse Capacitor



FEATURES

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

APPLICATIONS

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

Pb-free

e3

RoHS COMPLIANT

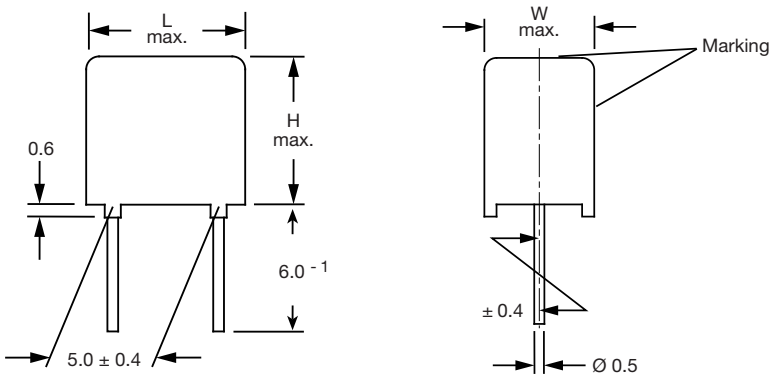
HALOGEN FREE GREEN (5-2008)

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_R)	160 V_{DC}	
Permissible AC voltages (RMS) up to 60 Hz	100 V_{AC}	
Test voltage (electrode/electrode)	1.6 x U_R for 2 s	
Insulation resistance	Measured at 100 V_{DC} after one minute 100 000 MΩ minimum value	
Temperature coefficient	-250 °C x 10^{-6}/°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_C	At +85 °C: U_C = 1.0 U_R At +100 °C: U_C = 0.7 U_R	
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_R)	
Dissipation factor tan δ	**MEASURED AT**	**C ≤ 0.1 µF**
	1 kHz	0.4 x 10^{-3}
	10 kHz	0.6 x 10^{-3}
	100 kHz	4 x 10^{-3}
	Maximum values	

Note

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

DIMENSIONS in millimeters



ELECTRICAL DATA

U_{RDC}	VOLTAGE CODE	CAP. (µF)	CAPACITANCE CODE	V_{AC}	DIMENSIONS W x H x L (mm)
160	16	0.010	-310	100	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
		0.033	-333		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

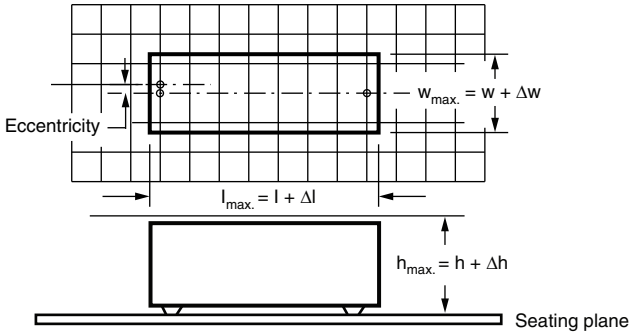
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER / BOX SIZE (mm)	ORDERING CODE EXAMPLES	PCM 5
D	Ammo	16.5	55 x 210 x 340	MKP1837-322-162-D	X
G	Ammo	18.5	55 x 210 x 340	MKP1837-322-162-G	X
F	Reel	16.5	350	MKP1837-322-162-F	X
W	Reel	18.5	350	MKP1837-322-162-W	X
-	Bulk	-	-	MKP1837-322-162	X

SPACE REQUIREMENTS FOR PRINTED-CIRCUIT BOARD APPLICATIONS AND DIMENSION TOLERANCES

For the maximum product dimensions and maximum space requirements for length ($l_{max.}$), width ($w_{max.}$) and height ($h_{max.}$) following tolerances must be taken in account in the envelopment of the components as shown in the drawings below:

- For products with pitch ≤ 15 mm, $\Delta w = \Delta l = 0.3$ mm and $\Delta h = 0.1$ mm
- For products with 15 mm < pitch ≤ 27.5 mm, $\Delta w = \Delta l = 0.5$ mm and $\Delta h = 0.1$ mm
- For products with pitch = 37.5 mm, $\Delta w = \Delta l = 0.7$ 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

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

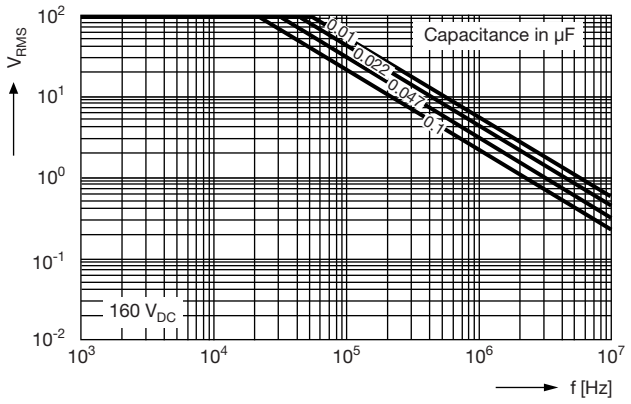


For the minimum product dimensions for length ($l_{min.}$), width ($w_{min.}$), and height ($h_{min.}$) following tolerances of the components are valid:

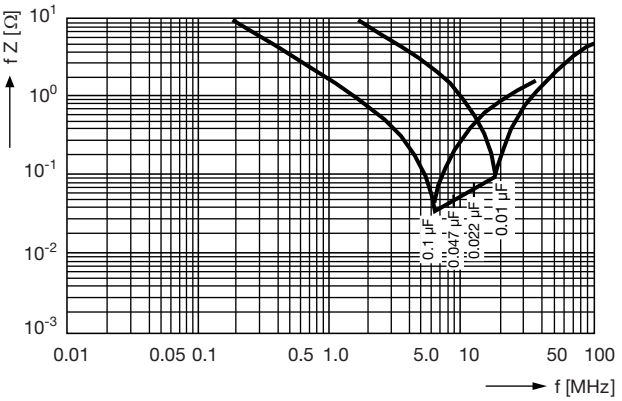
$l_{min.} = l - \Delta l$, $w_{min.} = w - \Delta w$ and $h_{min.} = h - \Delta h$ following

- For products with pitch ≤ 10 mm, Δl = 0.3 mm and $\Delta w = \Delta h$ = 0.3 mm
- For products with pitch = 15 mm, Δl = 0.5 mm and $\Delta w = \Delta h$ = 0.5 mm
- For products with 15 mm < pitch ≤ = 27.5 mm, Δl = 1.0 mm and $\Delta w = \Delta h$ = 0.5 mm
- For products with pitch = 37.5 mm, Δl = 1.0 mm and $\Delta w = \Delta h$ = 1.0 mm
- For products with pitch = 52.5 mm, Δl = 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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