

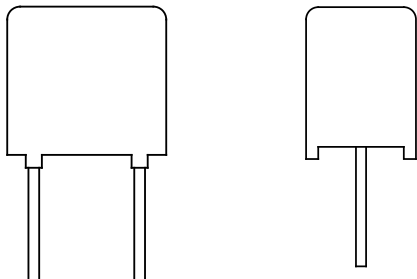


**THE DATASHEET OF  
MKP1837410011**





## 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](http://www.vishay.com/doc?99912)

### APPLICATIONS

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

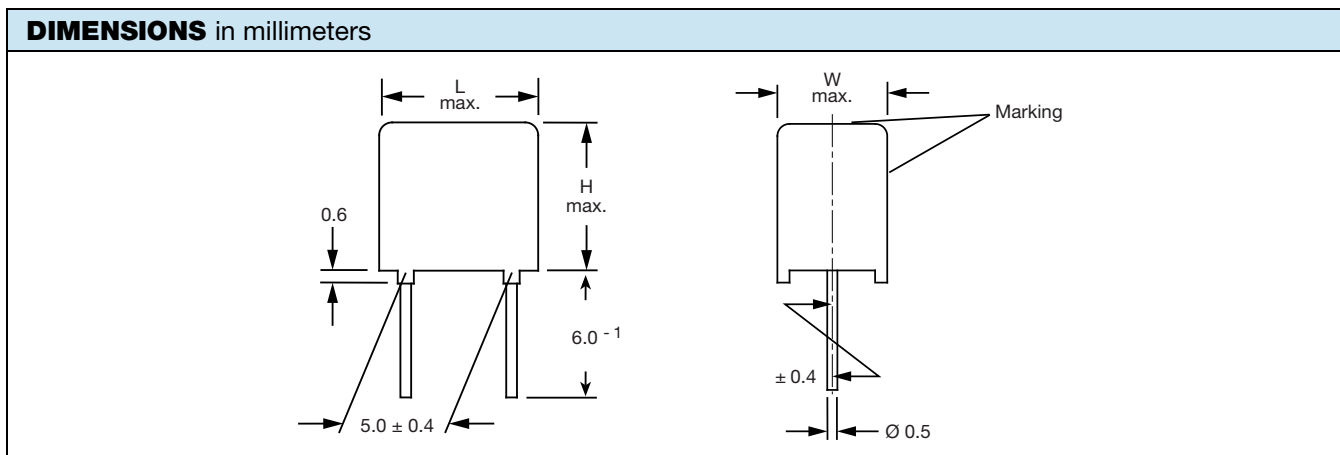


**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

QUICK REFERENCE DATA		
Capacitance range	0.01 $\mu$ F to 0.1 $\mu$ F	
Capacitance tolerance	$\pm 10\%$ (K); $\pm 5\%$ (J); $\pm 2.5\%$ (H); $\pm 1\%$ (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 M $\Omega$ minimum value	
Temperature coefficient	-250 °C x 10 <sup>-6</sup> /°C (typical value)	
Maximum pulse rise time	$dV/dt = 390$ V/ $\mu$ s 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	$\geq 30$ 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 $\tan \delta$	<b>MEASURED AT</b>	<b>C <math>\leq 0.1 \mu</math>F</b>
	1 kHz	$0.4 \times 10^{-3}$
	10 kHz	$0.6 \times 10^{-3}$
	100 kHz	$4 \times 10^{-3}$
Maximum values		

**Note**

- For further details, please refer to the general information available at [www.vishay.com/doc?26033](http://www.vishay.com/doc?26033)



ELECTRICAL DATA					
$U_{RDC}$	VOLTAGE CODE	CAP. ( $\mu F$ )	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

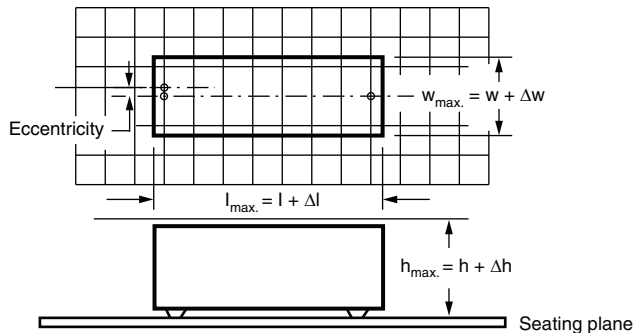
**SPACE REQUIREMENTS FOR PRINTED-CIRCUIT BOARD APPLICATIONS AND DIMENSION TOLERANCES**

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  $\leq 15$  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
- 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.

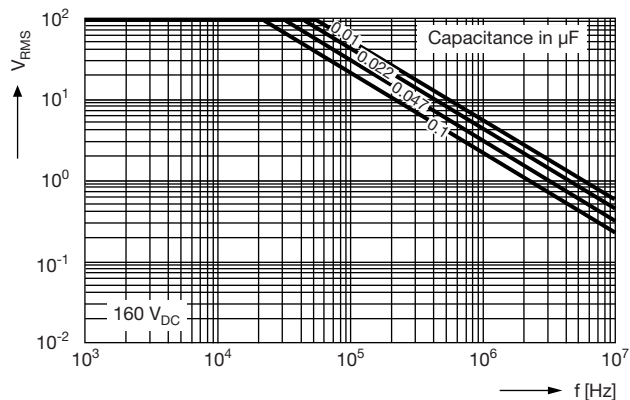


For the minimum product dimensions for length ( $l_{min.}$ ), width ( $w_{min.}$ ), and height ( $h_{min.}$ ) following tolerances of the components are valid:

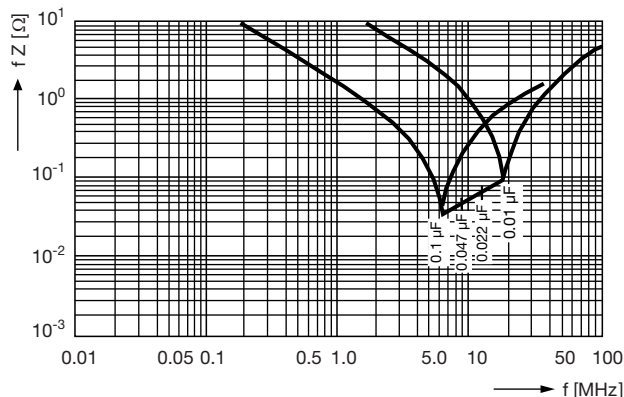
$l_{min.} = l - \Delta l$ ,  $w_{min.} = w - \Delta w$  and  $h_{min.} = h - \Delta h$  following

- For products with pitch  $\leq 10$  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  $15 \text{ mm} < \text{pitch} \leq 27.5$  mm,  $\Delta l = 1.0$  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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