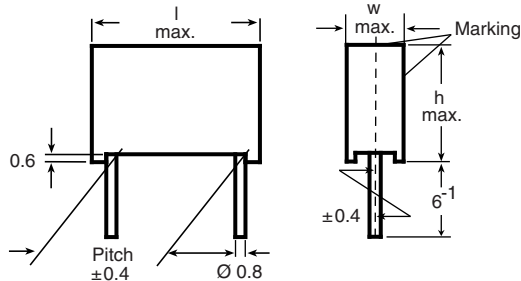


# AC and Pulse Metallized Polypropylene Film Capacitors

## MKP Radial Potted Type

Dimensions in millimeters



LEAD DIAMETER $d_t$ (mm)	W (mm)	PITCH (mm)
0.5	-	5
0.6	-	7.5/10
0.8	< 16	15 to 37.5
1.0	≥ 16.5	15 to 37.5

### MAIN APPLICATIONS

Pulse operations, deflection circuits in TV-sets (S-correction), SMPS and thyristor circuits, storage, filter, timing, sample and hold circuits.

### DIELECTRIC

Polypropylene film

### ELECTRODES

Metallized

### COATING

Flame retardant plastic case (class UL 94 V0), 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

4700 pF to 10 μF

### MAXIMUM PULSE RISE TIME

PCM (mm)	Maximum Pulse Rise Time dV/dt [V/μs]				
	100 V <sub>DC</sub>	160 V <sub>DC</sub>	250 V <sub>DC</sub>	400 V <sub>DC</sub>	630 V <sub>DC</sub>
5	390	-	-	-	-
7.5	-	240	300	-	-
10	-	175	20	-	510
15	-	100	125	200	280
22.5	-	60	75	120	160
27.5	-	45	60	95	120
37.5	-	30	40	65	85

### Note

• If the maximum pulse voltage is less than the rated voltage higher dV/dt values can be permitted.

### FEATURES

• Compliant to RoHS directive 2002/95/EC

### CAPACITANCE TOLERANCES

± 20 % (M), ± 10 % (K), ± 5 % (J)

### RATED VOLTAGES (U<sub>R</sub>)

100 V<sub>DC</sub>, 160 V<sub>DC</sub>, 250 V<sub>DC</sub>, 400 V<sub>DC</sub>, 630 V<sub>DC</sub>

### INSULATION RESISTANCE

Measured at 100 V<sub>DC</sub> after one minute

For C ≤ 0.33 μF:

25 000 MΩ (U<sub>R</sub> 100 V<sub>DC</sub>)

### PERMISSIBLE AC VOLTAGES (RMS) UP TO 60 Hz

63 V<sub>AC</sub>, 100 V<sub>AC</sub>, 160 V<sub>AC</sub>, 220 V<sub>AC</sub>, 250 V<sub>AC</sub>

### TEST VOLTAGE (ELECTRODE/ELECTRODE)

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

### TIME CONSTANT

Measured at 100 V<sub>DC</sub> after one minute

For C > 0.33 μF:

30 000 s minimum value

### TEMPERATURE COEFFICIENT

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

### CAPACITANCE DRIFT

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

### DIELECTRIC ABSORPTION

0.05 % (typical value) according to IEC 60068-2-21

### 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

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



RoHS  
COMPLIANT

## DISSIPATION FACTOR $\tan \delta$

MEASURED AT	$C \leq 0.1 \mu\text{F}$	$0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$	$C > 1.0 \mu\text{F}$
1 kHz	$0.3 \times 10^{-3}$	$0.4 \times 10^{-3}$	$1 \times 10^{-3}$
10 kHz	$0.6 \times 10^{-3}$	$0.6 \times 10^{-3}$	-
100 kHz	$4 \times 10^{-3}$	-	-
Maximum values			

CAP.	CAP. CODE	VOLTAGE CODE 01 100 V <sub>DC</sub> /63 V <sub>AC</sub>				VOLTAGE CODE 16 160 V <sub>DC</sub> /100 V <sub>AC</sub>				VOLTAGE CODE 25 250 V <sub>DC</sub> /160 V <sub>AC</sub>				VOLTAGE CODE 40 400 V <sub>DC</sub> /220 V <sub>AC</sub>				VOLTAGE CODE 63 630 V <sub>DC</sub> /250 V <sub>AC</sub> <sup>(1)</sup>			
		W	H	L	PCM	W	H	L	PCM	W	H	L	PCM	W	H	L	PCM	W	H	L	PCM
4700 $\mu\text{F}$	- 247	3.5	8.5	7.5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6800 $\mu\text{F}$	- 268	3.5	8.5	7.5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.01 $\mu\text{F}$	- 310	3.5	8.5	7.5	5	-	-	-	-	4.0	9.0	10.0	7.5	4.0	9.0	13.0	10	4.5	9.5	13.0	10
0.015 $\mu\text{F}$	- 315	3.5	8.5	7.5	5	-	-	-	-	4.0	9.0	10.0	7.5	4.5	9.0	13.0	10	5.5	10.5	13.0	10
0.022 $\mu\text{F}$	- 322	3.5	8.5	7.5	5	-	-	-	-	4.0	9.0	10.0	7.5	5.5	10.5	13.0	10	6.5	11.5	13.0	10
0.033 $\mu\text{F}$	- 333	4.5	9.5	7.5	5	4.0	9.0	10.0	7.5	4.0	9.0	13.0	10	6.5	11.5	13.0	10	5.5	10.5	18.0	15
0.047 $\mu\text{F}$	- 375	4.5	9.5	7.5	5	4.0	9.5	10.0	7.5	4.5	9.5	13.0	10	5.5	10.5	18.0	15	6.5	12.5	18.0	15
0.068 $\mu\text{F}$	- 368	5.0	10.0	7.5	5	4.5	9.5	13.0	10	5.5	10.5	13.0	10	6.5	12.5	18.0	15	7.5	13.5	18.0	15
0.1 $\mu\text{F}$	- 410	5.5	11.5	7.5	5	5.5	10.5	13.0	10	6.5	11.5	13.0	10	7.5	13.5	18.0	15	8.5	17.5	18.0	15
0.15 $\mu\text{F}$	- 415	-	-	-	-	6.5	11.5	13.0	10	6.5	12.5	18.0	15	8.5	17.5	18.0	15	8.5	16.5	26.5	22.5
0.22 $\mu\text{F}$	- 422	-	-	-	-	6.5	12.5	18.0	15	7.5	13.5	18.0	15	10.5	17.5	18.0	15	10.5	18.5	26.5	22.5
0.33 $\mu\text{F}$	- 433	-	-	-	-	6.5	12.5	18.0	15	8.5	14.5	18.0	15	10.5	18.5	26.5	22.5	11.0	21.0	26.5	22.5
0.47 $\mu\text{F}$	- 447	-	-	-	-	7.5	13.5	18.0	15	8.5	17.5	18.0	15	11.0	21.0	26.5	22.5	13.5	23.5	31.5	27.5
0.68 $\mu\text{F}$	- 468	-	-	-	-	8.5	17.5	18.0	15	8.5	16.5	26.5	22.5	11.0	21.0	31.0	27.5	16.5	29.5	31.5	27.5
1.0 $\mu\text{F}$	- 510	-	-	-	-	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5	13.5	23.5	31.5	27.5	16.5	29.5	31.5	27.5
1.5 $\mu\text{F}$	- 515	-	-	-	-	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5	16.5	29.5	31.5	27.5	18.0	32.5	41.5	37.5
2.2 $\mu\text{F}$	- 522	-	-	-	-	11.0	21.0	31.0	27.5	13.5	23.5	31.5	27.5	16.0	28.5	41.5	37.5	20.0	40.0	42.5	37.5
3.3 $\mu\text{F}$	- 533	-	-	-	-	13.5	23.5	31.5	27.5	16.5	29.5	31.5	27.5	20.0	40.0	42.5	37.5	-	-	-	-
4.7 $\mu\text{F}$	- 547	-	-	-	-	12.5	22.5	41.5	37.5	16.0	28.5	41.5	37.5	20.0	40.0	42.5	37.5	-	-	-	-
6.8 $\mu\text{F}$	- 568	-	-	-	-	16.0	28.5	41.5	37.5	18.0	32.5	41.5	37.5	37.5	-	-	-	-	-	-	-
10.0 $\mu\text{F}$	- 610	-	-	-	-	18.0	32.5	41.5	37.5	20.0	40.0	42.5	37.5	-	-	-	-	-	-	-	-

### Notes

- Further C-values upon request
- <sup>(1)</sup> Not suitable for mains applications  
Please refer to X-capacitors in our catalog "RFI Suppression Components"

## RECOMMENDED PACKAGING

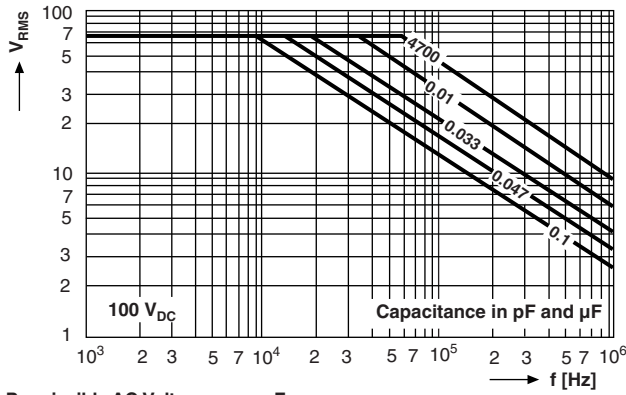
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 7.5 to 10	PCM 15	PCM 22.5 to 27.5	PCM 37.5
D	Ammo	16.5	S <sup>(1)</sup>	MKP 1840-310-405-D	X	X	-	-
G	Ammo	18.5	S <sup>(1)</sup>	MKP 1840-310-405-G	X	X	-	-
F	Reel	16.5	350	MKP 1840-310-405-F	X	X	-	-
W	Reel	18.5	350	MKP 1840-310-405-W	X	X	-	-
V	Reel	18.5	500	MKP 1840-522-255-V	-	X	X	-
G	Ammo	18.5	L <sup>(2)</sup>	MKP 1840-522-255-G	-	-	X	-
-	Bulk	-	-	MKP 1840-547-255	X	X	X	X

### Notes

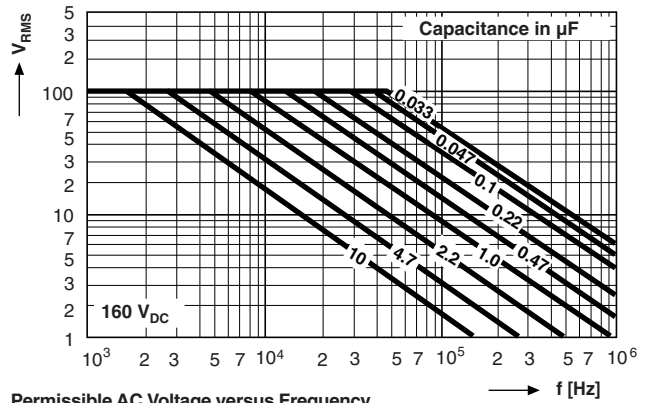
- <sup>(1)</sup> S = Box size 55 mm x 210 mm x 340 mm (W x H x L)
- <sup>(2)</sup> L = Box size 60 mm x 510 mm x 360 mm (W x H x L)



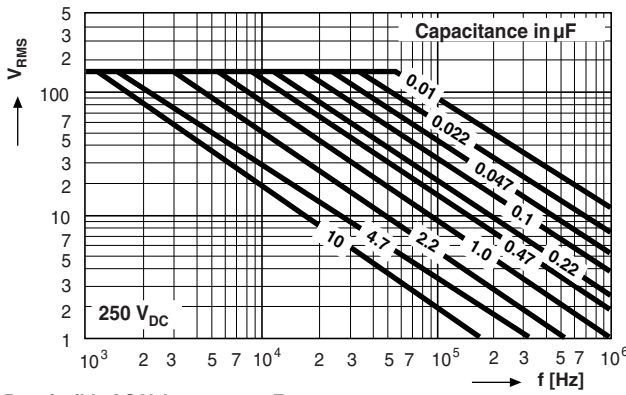
AC and Pulse Metallized Polypropylene Film Capacitors Vishay Roederstein  
MKP Radial Potted Type



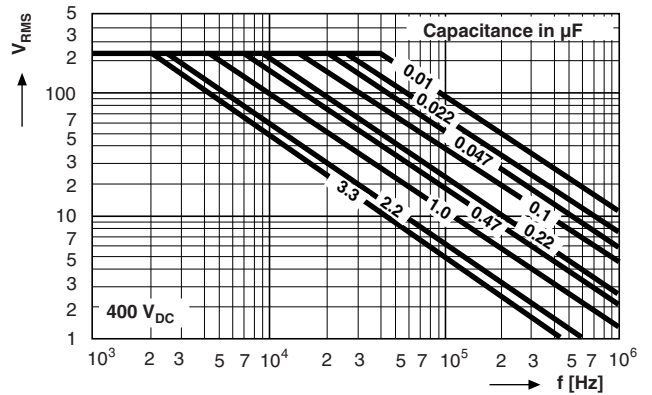
Permissible AC Voltage versus Frequency



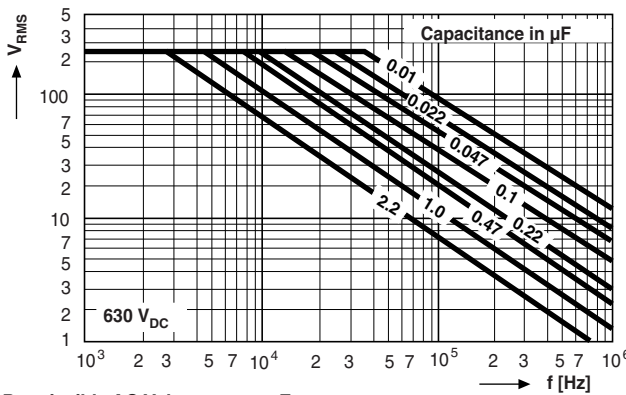
Permissible AC Voltage versus Frequency



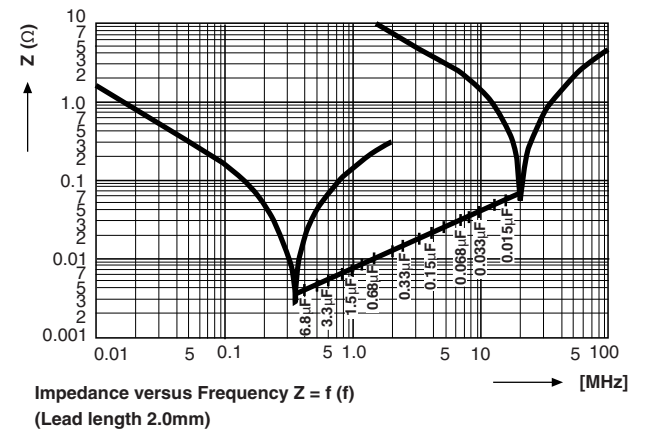
Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



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



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