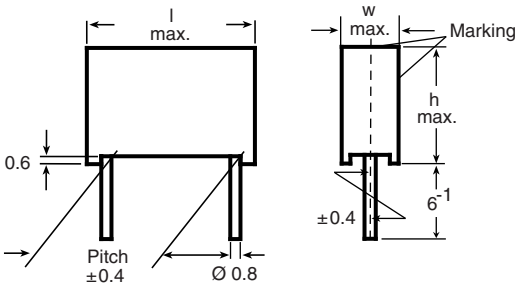
AC and Pulse Metallized Polypropylene Film Capacitors
MKP Radial Potted Type

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

FEATURES
• Compliant to RoHS Directive 2002/95/EC

CAPACITANCE TOLERANCES
± 20 % (M), ± 10 % (K), ± 5 % (J)

RATED VOLTAGES (U_R)
100 V_{DC},160 V_{DC}, 250 V_{DC}, 400 V_{DC}, 630 V_{DC}

INSULATION RESISTANCE
Measured at 100 V_{DC} after one minute
For C ≤ 0.33 µF:
25 000 MΩ (U_R 100 V_{DC})

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60 Hz
63 V_{AC}, 100 V_{AC}, 160 V_{AC}, 220 V_{AC}, 250 V_{AC}

TEST VOLTAGE (ELECTRODE/ELECTRODE)
1.6 x U_R for 2 s

TIME CONSTANT
Measured at 100 V_{DC} after one minute
For C > 0.33 µF:
30 000 s minimum value

TEMPERATURE COEFFICIENT
- 250 x 10^{-6}/°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_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

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

MAXIMUM PULSE RISE TIME

PCM (mm)	Maximum Pulse Rise Time dV/dt [V/µs]				
	100 V_{DC}	160 V_{DC}	250 V_{DC}	400 V_{DC}	630 V_{DC}
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.

DISSIPATION FACTOR TAN δ

MEASURED AT	C ≤ 0.1 µF	0.1 µF < C ≤ 1.0 µF	C > 1.0 µF
1 kHz	0.3×10^{-3}	0.4×10^{-3}	1×10^{-3}
10 kHz	0.6×10^{-3}	0.6×10^{-3}	-
100 kHz	4×10^{-3}	-	-
	Maximum values		

CAP.	CAP. CODE	VOLTAGE CODE 01 100 V_{DC}/63 V_{AC}				VOLTAGE CODE 16 160 V_{DC}/100 V_{AC}				VOLTAGE CODE 25 250 V_{DC}/160 V_{AC}				VOLTAGE CODE 40 400 V_{DC}/220 V_{AC}				VOLTAGE CODE 63 630 V_{DC}/250 V_{AC} (1)			
		W	H	L	PCM	W	H	L	PCM	W	H	L	PCM	W	H	L	PCM	W	H	L	PCM
4700 pF	- 247	3.5	8.5	7.5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6800 pF	- 268	3.5	8.5	7.5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.01 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 347	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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 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 µF	- 568	-	-	-	-	16.0	28.5	41.5	37.5	18.0	32.5	41.5	37.5	37.5	-	-	-	-	-	-	-
10.0 µF	- 610	-	-	-	-	18.0	32.5	41.5	37.5	20.0	40.0	42.5	37.5	-	-	-	-	-	-	-	-

Notes

- Further C-values upon request

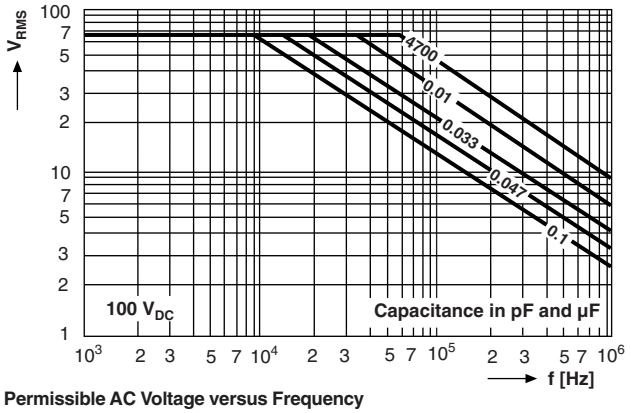
(1) Not suitable for mains applications
Please refer to X-capacitors in our catalog “RFI Suppression Components”

RECOMMENDED PACKAGING

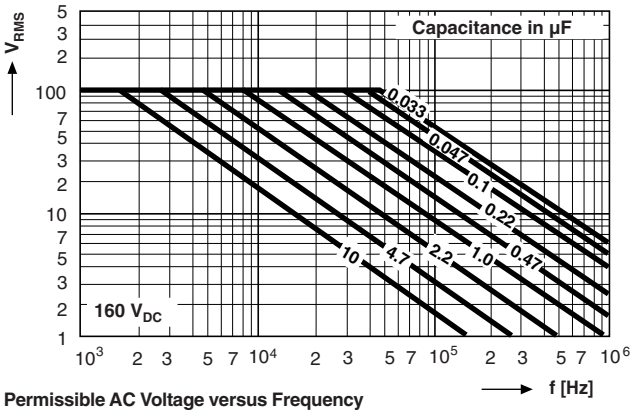
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 7.5 to 10	PCM 15	PCM 22.5 to 27.5	PCM 37.5
D	Ammo	16.5	S (1)	MKP 1840-310-405-D	X	X	-	-
G	Ammo	18.5	S (1)	MKP 1840-310-405-G	X	X	-	-
F	Reel	16.5	350	MKP 1840-310-405-F	X	X	-	-
W	Reel	18.5	350	MKP 1840-310-405-W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

Notes

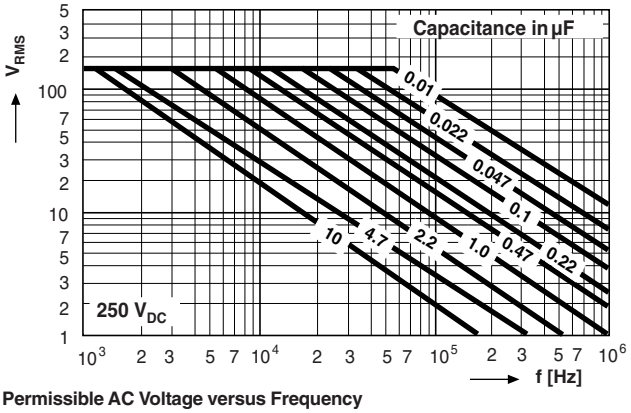
(1) S = Box size 55 mm x 210 mm x 340 mm (W x H x L)
(2) L = Box size 60 mm x 510 mm x 360 mm (W x H x L)



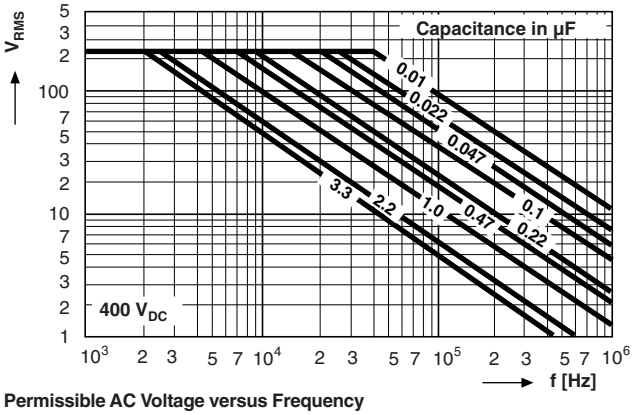
Permissible AC Voltage versus Frequency



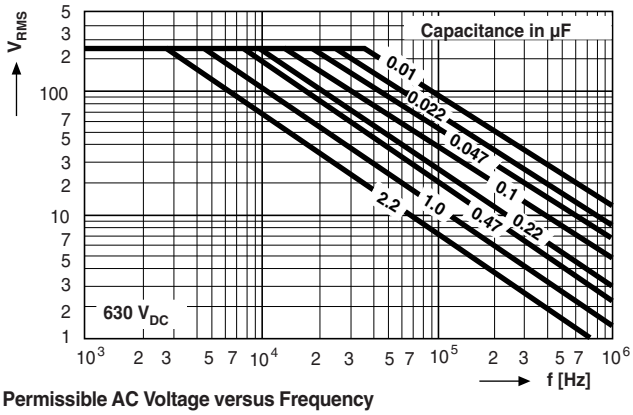
Permissible AC Voltage versus Frequency



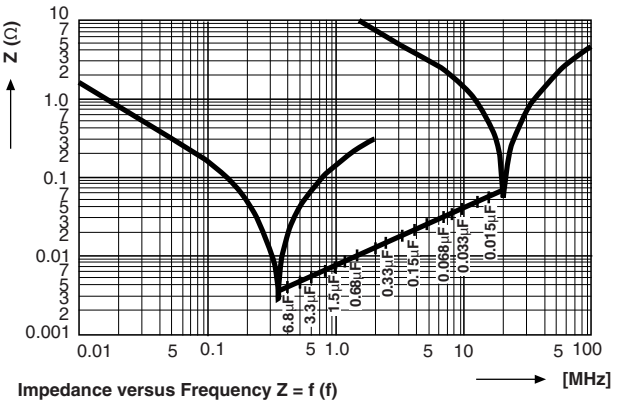
Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



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

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