Metallized Polycarbonate Film Capacitor
Related Document: IEC 60 384-6

MAIN APPLICATIONS:
Storage, filter, timing and integrating circuits.

MARKING:
Manufacturer's logo/type/C-value/rated voltage/tolerance/ date of manufacture

DIELECTRIC:
Polycarbonate film

ELECTRODES:
Vacuum deposited aluminum

COATING:
Flame retardant plastic case (UL-class 94 V-0), red, 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:
0.01μF to 10μF

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

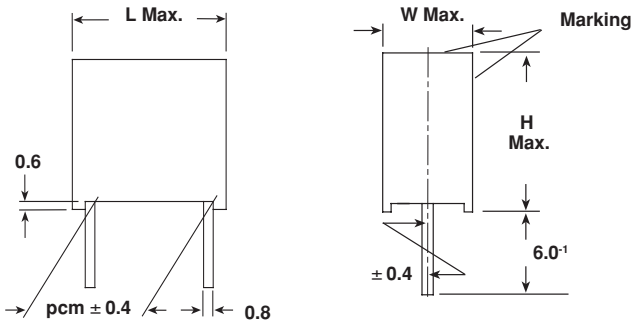
RATED VOLTAGES (U_R):
63 VDC, 100 VDC, 250 VDC, 400 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz:
40 VAC, 63 VAC, 160 VAC, 200 VAC

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

INSULATION RESISTANCE:
Measured at 100 VDC (63 VDC series measured at 50 VDC) after one minute
For C ≤ 0.33μF and U_R > 100 VDC:
30,000 MΩ minimum value (100,000 MΩ typical value)
For C ≤ 0.33μF and U_R ≤ 100 VDC:
15,000 MΩ minimum value (50,000 MΩ typical value)

Dimensions in mm



TIME CONSTANT:
Measured at 100 VDC (63 VDC series measured at 50 VDC) after one minute
For C > 0.33μF and U_R > 100 VDC:
10,000 s minimum value (40,000 s typical value)
For C > 0.33μF and U_R ≤ 100 VDC:
5000 s minimum value (15,000 s typical value)

CAPACITANCE DRIFT:
Up to + 40°C, ± 1% for a period of two years

DERATING FOR DC AND AC. CATEGORY VOLTAGE U_C:
At + 85°C: U_C = 1.0 U_R
At + 100°C: U_C = 0.8 U_R

SELF INDUCTANCE:
~ 6 nH measured with 2mm long leads

PULL TEST ON LEADS:
≥ 30 N in direction of leads according to IEC 60068-2-21

BEND TEST ON LEADS:
2 bends through 90° with half of the force used in pull test

RELIABILITY:
Operational life > 300,000 h
Failure rate < 1 FIT (40°C and 0.5 x U_R)

For further details, please refer to the general information provided in this catalog.

MAXIMUM PULSE RISE TIME

PCM	Maximum pulse rise time d_v/d_t [V/μs]			
(mm)	63 VDC	100 VDC	250 VDC	400 VDC
10	17	23	38	61
15	9	13	21	33
22.5	6	8	13	20
27.5	5	6	10	16

If the maximum pulse voltage is less than the rated voltage higher d_v/d_t values can be permitted.
Please note: these capacitors are not recommended for new designs

DISSIPATION FACTOR TAN δ

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

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 06 63 VDC/ 40 VAC				VOLTAGE CODE 01 100 VDC/ 63 VAC				VOLTAGE CODE 25 250 VDC/ 160 VAC				VOLTAGE CODE 40 400 VDC/ 200 VAC			
		W	H	L	PCM	W	H	L	PCM	W	H	L	PCM	W	H	L	PCM
0.01 μF	- 310	—	—	—	—	—	—	—	—	—	—	—	—	4.0	9.0	13.0	10
0.015 μF	- 315	—	—	—	—	—	—	—	—	—	—	—	—	4.0	9.0	13.0	10
0.022 μF	- 322	—	—	—	—	—	—	—	—	4.0	9.0	13.0	10	4.0	9.0	13.0	10
0.033 μF	- 333	—	—	—	—	—	—	—	—	4.0	9.0	13.0	10	5.5	10.5	13.0	10
0.047 μF	- 347	—	—	—	—	—	—	—	—	4.0	9.0	13.0	10	5.5	10.5	18.0	15
0.068 μF	- 368	—	—	—	—	4.0	9.0	13.0	10	5.5	10.5	13.0	10	5.5	10.5	18.0	15
0.1 μF	- 410	—	—	—	—	4.0	9.0	13.0	10	5.5	10.5	18.0	15	6.5	12.5	18.0	15
0.15 μF	- 415	—	—	—	—	5.5	10.5	13.0	10	5.5	10.5	18.0	15	8.5	14.5	18.0	15
0.22 μF	- 422	4.0	9.0	13.0	10	6.5	11.5	13.0	10	6.5	12.5	18.0	15	7.5	15.5	26.5	22.5
0.33 μF	- 433	4.5	9.5	13.0	10	5.5	10.5	18.0	15	7.5	13.5	18.0	15	8.5	16.5	26.5	22.5
0.47 μF	- 447	5.5	10.5	13.0	10	6.5	12.5	18.0	15	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5
0.68 μF	- 468	5.5	10.5	18.0	15	7.5	13.5	18.0	15	8.5	16.5	26.5	22.5	11.5	20.5	31.5	27.5
1.0 μF	- 510	6.5	12.5	18.0	15	8.5	14.5	18.0	15	8.5	16.5	26.5	22.5	13.5	23.5	31.5	27.5
1.5 μF	- 515	7.5	13.5	18.0	15	7.5	15.5	26.5	22.5	11.5	20.5	31.5	27.5	—	—	—	—
2.2 μF	- 522	8.5	14.5	18.0	15	8.5	16.5	26.5	22.5	11.5	20.5	31.5	27.5	—	—	—	—
3.3 μF	- 533	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5	13.5	23.5	31.5	27.5	—	—	—	—
4.7 μF	- 547	8.5	16.5	26.5	22.5	11.5	20.5	31.5	27.5	16.5	29.5	31.5	27.5	—	—	—	—
6.8 μF	- 568	10.5	18.5	26.5	22.5	13.5	23.5	31.5	27.5	—	—	—	—	—	—	—	—
10.0 μF	- 610	11.5	20.5	31.5	27.5	15.0	24.5	31.5	27.5	—	—	—	—	—	—	—	—

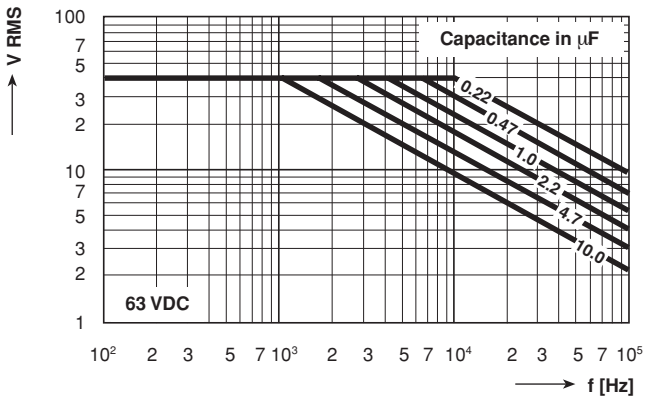
Further C-values upon request

RECOMMENDED PACKAGING

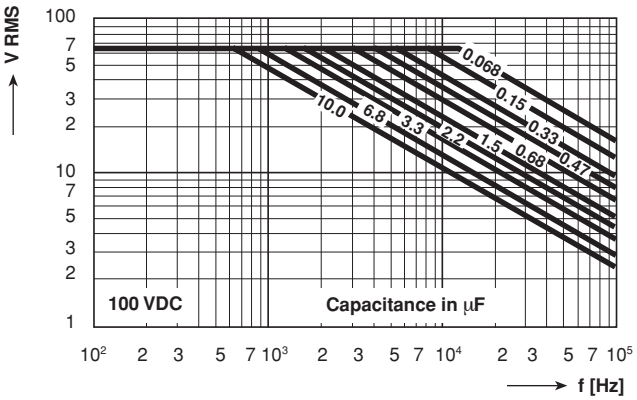
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 10	PCM 15	PCM 22.5 - 27.5
D	AMMO	16.5	S*	MKC 1862-310/405-D	X	X	—
G	AMMO	18.5	S*	MKC 1862-310/405-G	X	X	—
F	REEL	16.5	350	MKC 1862-310/405-F	X	X	—
W	REEL	18.5	350	MKC 1862-310/405-W	X	X	—
V	REEL	18.5	500	MKC 1862-522/255-V	—	X	X
G	AMMO	18.5	L*	MKC 1862-522/255-G	—	—	X
—	BULK	—	—	MKC 1862-522/255	X	X	X

*S - box size 55 x 210 x 340mm (W x H x L)
*L - box size 60 x 360 x 510mm (W x H x L)

Please note: these capacitors are not recommended for new designs



Permissible AC Voltage versus Frequency



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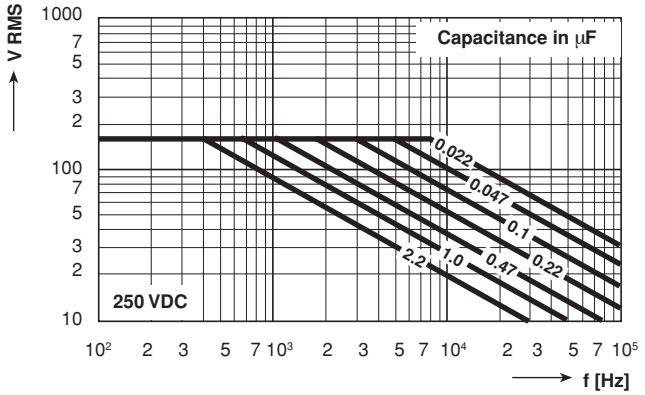

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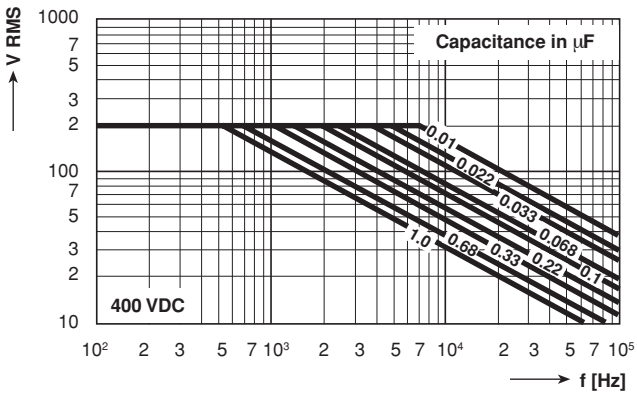

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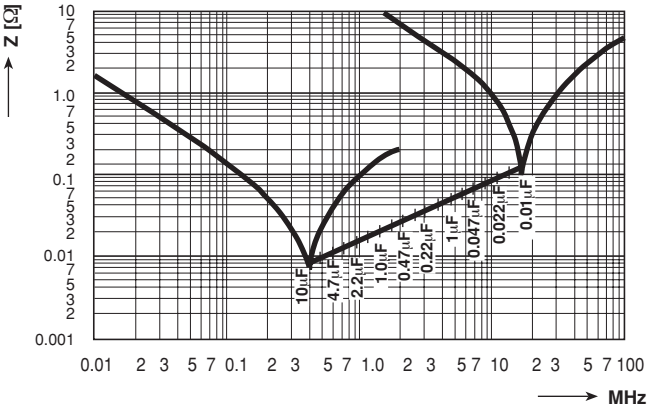

Impedance versus Frequency Z = f (f) (Lead length 2.0mm)

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