

WIMA MKC 4

Metallized polycarbonate capacitors for stringent requirements

■ Polycarbonate capacitors with PCM ≥ 10 mm and wide capacitance and voltage ranges. ■ For all applications where constant capacitance values with temperature are required, e.g. in automotive electronics. ■ Available taped and reeled up to and including case size 15 x 26 x 31.5 / PCM 27.5.

Technical Data

Dielectric: Polycarbonate film.

Capacitor electrodes: Vacuum-deposited aluminium.

Encapsulation: Flame-retardant plastic case, UL 94 V-0, with epoxy resin seal. Colour: Red. Marking: Black.

Temperature range: -55° C to +100° C.

Test specifications: In accordance with IEC 60384-6 and EN 130 500.

Test category: 55/100/56 in accordance with IEC.

Insulation resistance at +20° C:

U _r	U _{test}	C < 0.33 μ F	0.33 μ F < C ≤ 10 μ F
63 VDC	50 V	$\geq 1.5 \times 10^4$ M Ω	≥ 5000 sec (M Ω × μ F)
100 VDC	100 V	Mean value: 5×10^4 M Ω	Mean value: 20 000 sec
> 250 VDC	100 V	$\geq 3 \times 10^4$ M Ω	$\geq 10 000$ sec (M Ω × μ F)
		Mean value: 1×10^5 M Ω	Mean value: 40 000 sec

In accordance with IEC 60384-6 grade I and EN 130 500. Measuring time: 1 min.

Dissipation factors at +20° C: tan δ

at f	C ≤ 0.1 μ F	0.1 μ F < C ≤ 10 μ F	C > 10 μ F
1 kHz	≤ 3×10^{-3}	≤ 3×10^{-3}	≤ 3×10^{-3}
10 kHz	≤ 4×10^{-3}	≤ 5×10^{-3}	-
100 kHz	≤ 10×10^{-3}	-	-

Capacitance tolerances: ± 20%, ± 10%, ± 5%.

Temperature characteristics: See graph page 5.

Maximum pulse rise time:

Capacitance μ F	Pulse rise time V/ μ sec max. operation / test			
	63 VDC	100 VDC	250 VDC	400 VDC
0.01 ... 0.022	-	-	-	40/400
0.033 ... 0.068	-	-	22/220	25/250
0.1 ... 0.22	13/130	12/120	14/140	14/140
0.33 ... 0.68	7.5/75	9.5/95	8.5/85	11/110
1.0 ... 2.2	6.5/65	5.5/55	6.5/65	10/100
3.3 ... 4.7	4/40	4/40	-	-
6.8 ... 10	3/30	3/30	-	-

for pulses equal to the rated voltage.

Test voltage: 1.6 U_r, 2 sec.

Vibration: 6 hours at 10...2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6.

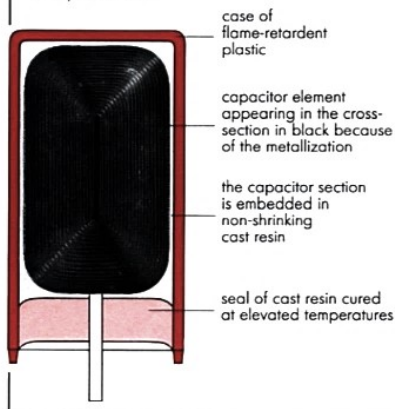
Low air density: 1 kPa = 10 mbar in accordance with IEC 60068-2-13.

Bump test: 4000 bumps at 390 m/sec² in accordance with IEC 60068-2-29.

Voltage derating: A voltage derating factor of 1% per K must be applied from + 85° C for DC voltages and from + 75° C for AC voltages.

Graphs see page 5.

Cross section of a WIMA capacitor in a plastic case



General Data

Capacitance	63 VDC / 40 VAC*				100 VDC / 63 VAC*			
	W	H	L	PCM	W	H	L	PCM
0.1 μ F					4	9.5	13	10
0.15 "					4	9.5	13	10
0.22 "	4	9.5	13	10	5	11	13	10
0.33 "	4	9.5	13	10	5	11	18	15
0.47 "	5	11	13	10	5	11	18	15
0.68 "	5	11	18	15	7	14	18	15
1.0 μ F	6	12.5	18	15	7	14	18	15
1.5 "	7	14	18	15	7	16.5	26.5	22.5
2.2 "	8	15	18	15	8.5	18.5	26.5	22.5
3.3 "	7	16.5	26.5	22.5	10.5	19	26.5	22.5
4.7 "	8.5	18.5	26.5	22.5	11	21	31.5	27.5
6.8 "	10.5	19	26.5	22.5	13	24	31.5	27.5
10 μ F	11	21	31.5	27.5	15	26	31.5	27.5

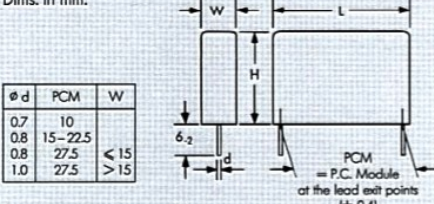
Capacitance	250 VDC / 160 VAC*				400 VDC / 220 VAC*			
	W	H	L	PCM	W	H	L	PCM
0.01 μ F					4	9	13	10
0.015 "					4	9	13	10
0.022 "					4	9	13	10
0.033 "	4	9.5	13	10	4	9.5	13	10
0.047 "	4	9.5	13	10	5	11	18	15
0.068 "	5	11	13	10	5	11	18	15
0.1 μ F	5	11	13	10*	6	12.5	18	15
0.15 "	5	11	18	15*	7	14	18	15
0.22 "	6	12.5	18	15	7	16.5	26.5	22.5
0.33 "	7	14	18	15	8.5	18.5	26.5	22.5
0.47 "	7	16.5	26.5	22.5	10.5	19	26.5	22.5
0.68 "	7	16.5	26.5	22.5	11	21	31.5	27.5
1.0 μ F	8.5	18.5	26.5	22.5	13	24	31.5	27.5
1.5 "	9	19	31.5	27.5	15	26	31.5	27.5
2.2 "	11	21	31.5	27.5	17	34.5	31.5	27.5

* AC voltage: $f \leq 400$ Hz, $1.4 \times U_{rms} + U_{DC} < U_r$

** PCM = Printed circuit module = lead spacing

* On ordering please state the required PCM (lead spacing)! If not specified, smaller PCM will be booked.

Dims. in mm.



Taped version see page 92.

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Permissible AC voltages in relation to frequency at 10° C internal temperature rise (general guideline):

