A05-17-07

WIMA MKC 10

High-reliability capacitors

Polycarbonate capacitors for pulse applications with electrodes of double-sided metallized carrier film

■ **Self-healing pulse duty construction with low ESR (see illustration page 55).** ■ **Constant capacitance value with temperature.** ■ **For pulse applications where constant capacitance values are required.** ■ **Available taped and reeled.**

Technical Data

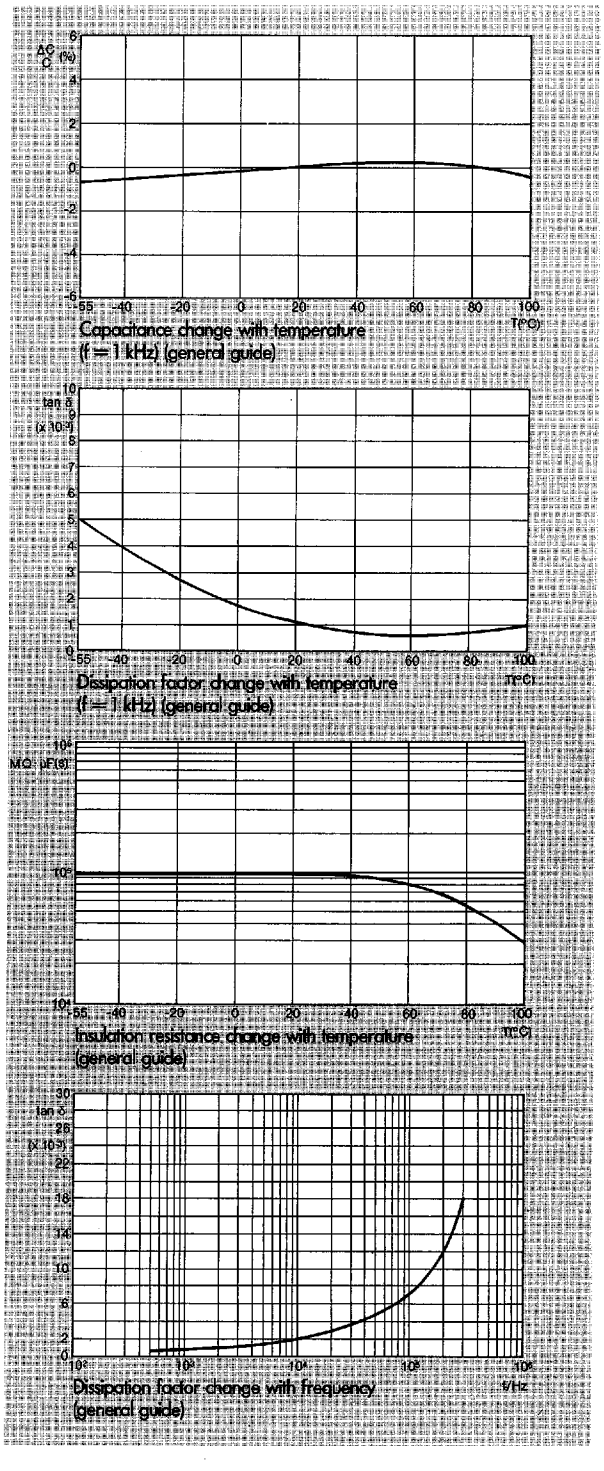
Dielectric: Polycarbonate film.
Capacitor electrodes: Double-sided metallized plastic film.
Encapsulation: Flame-retardent plastic case, UL 94 V–O, with epoxy resin seal. Colour: Red. Marking: Black.
Temperature range: – 55° C to + 100° C.
Test category: 55/100/56 in accordance with IEC.
Insulation resistance at + 20° C:
$C \leqslant 0.33$ µF: $\geqslant 3 \times 10^4$ megohms
(mean value: 8×10^4 megohms)
$C > 0.33$ µF: $\geqslant$ 10 000 sec (megohms × µF)
(mean value: 40 000 sec)
Measuring voltage: 100 V/1 min.
Dissipation factors at + 20° C: tan δ

at f	C ⩽ 0.1 µF	0.1 µF < C ⩽ 1.0 µF	C > 1.0 µF
1 kHz	$\leqslant 2 \times 10^{-3}$	$\leqslant 2 \times 10^{-3}$	$\leqslant 4 \times 10^{-3}$
10 kHz	$\leqslant 3 \times 10^{-3}$	$\leqslant 3 \times 10^{-3}$	–
100 kHz	$\leqslant 6 \times 10^{-3}$	–	–

Capacitance tolerances: ± 20 %, ± 10 %, ± 5 %.
Temperature characteristics: See graph.
Maximum pulse rise time:

Capacitance µF	Pulse rise time V/µsec max. operation			
	250 VDC	400 VDC	630 VDC	1000 VDC
0.01 ... 0.022	250	300	250	500
0.033 ... 0.068	210	175	160	300
0.1 ... 0.22	110	110	125	170
0.33 ... 0.68	70	85	125	–
1.0 ... 1.5	55	–	–	–

Test voltage: 1.6 Vr, 2 sec.
Vibration: 6 hours at 10 ... 2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 68-2-6.
Low air density: 1 kPa = 10 mbar in accordance with IEC 68-2-13.
Bump test: 4000 bumps at 390 m/sec² in accordance with IEC 68-2-29.
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.

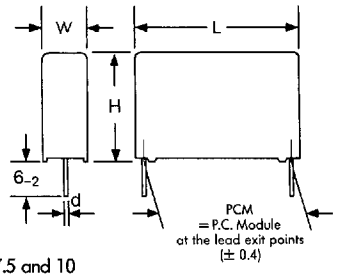


General Data

Capacitance	250 VDC / 160 VAC*				400 VDC / 220 VAC*				630 VDC / 220 VAC*				1000 VDC / 250 VAC*			
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**
0.01 µF					4.5	9.5	10.3	**7.5**	5	11	13	10	6	12.5	18	15
0.015 „					5	11	13	10	5	11	13	10	7	14	18	15
0.022 „	4.5	9.5	10.3	**7.5**	5	11	13	10	5	11	18	15	8	15	18	15
0.033 „	5	11	13	10	6	12.5	13	10	6	12.5	18	15	7	16.5	26.5	22.5
0.047 „	5	11	13	10	5	11	18	15	7	14	18	15	8.5	18.5	26.5	22.5
0.068 „	6	12.5	13	10	6	12.5	18	15	7	16.5	26.5	22.5	11	21	26.5	22.5
0.1 µF	5	11	18	15	7	14	18	15	8.5	18.5	26.5	22.5	11	21	31.5	27.5
0.15 „	7	14	18	15	7	16.5	26.5	22.5	10.5	19	26.5	22.5	13	24	31.5	27.5
0.22 „	8	15	18	15	8.5	18.5	26.5	22.5	11	21	31.5	27.5				
0.33 „	7	16.5	26.5	22.5	11	21	26.5	22.5	13	24	31.5	27.5				
0.47 „	8.5	18.5	26.5	22.5	11	21	31.5	27.5	15	26	31.5	27.5				
0.68 „	10.5	19	26.5	22.5	13	24	31.5	27.5								
1.0 µF	11	21	31.5	27.5												
1.5 „	15	26	31.5	27.5												

* AC voltage: f ⩽ 400 Hz;
1.4 × Vrms + VDC ⩽ VDC (rated)
** PCM = Printed circuit module = lead spacing

Dims. in mm.



d = 0.7 ø if PCM 7.5 and 10
d = 0.8 ø if PCM 15 ... 27.5

Taped version see page 71.

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