148-896

WIMA MKS 4

Capacitors for stringent requirements with assessed quality

Metallized polyester capacitors

- **CECC approval Certificate No. 30 401-030**
- **In accordance with DIN 44 122**
- **In plastic cases with good humidity protection**
- **Available taped and reeled**
  (up to and including case size 15 × 26 × 31.5/PCM 27.5 mm)

Technical Data

Dielectric: Polyethylene terephthalate film.
Capacitor electrodes: Vacuum deposited aluminium.
Encapsulation: Flame-retardent plastic case, UL 94 V-O, with epoxy resin seal. Colour: Red.
Class of application: FMD LR in accordance with DIN 40 040.
Temperature range: –55° C to +100° C.
Test specification: In accordance with CECC 30 400 and IEC 384-2.
Test category: 55/100/56 in accordance with IEC.
Insulation resistance at +20° C:

V_r	V_{test}	C ≤ 0.33 µF	0.33 µF < C ≤ 22 µF
63 VDC	50 V	≥ 1.5 × 10^4 MΩ Mean value: 5 × 10^4 MΩ	≥ 5,000 sec (MΩ×µF) Mean value: 15,000 sec
100 VDC	100 V		
≥ 160 VDC	100 V	≥ 3 × 10^4 MΩ Mean value: 1 × 10^5 MΩ	≥ 10,000 sec (MΩ×µF) Mean value: 40,000 sec

In accordance with CECC 30 400 and IEC 384-2 grade 1.
Measuring time: 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	≤ 8 × 10^{-3}	≤ 8 × 10^{-3}	≤ 10 × 10^{-3}
10 kHz	≤ 15 × 10^{-3}	≤ 15 × 10^{-3}	–
100 kHz	≤ 30 × 10^{-3}	–	–

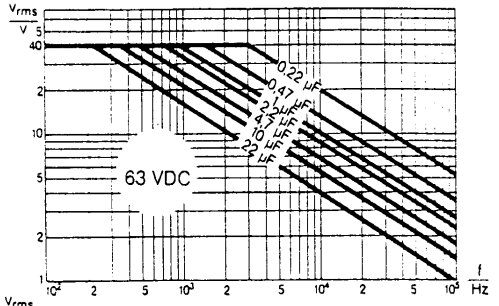
Capacitance tolerances: ±20 %, ±10 %, ±5 %.
Temperature characteristics: See graph page 5.
Maximum pulse rise time:

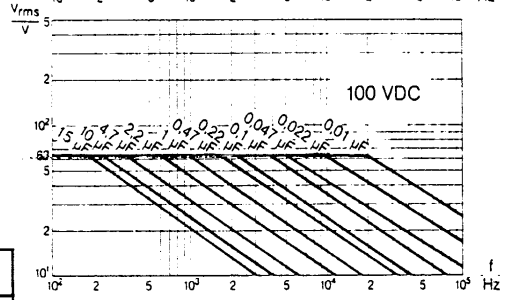
Capacitance pF/µF	Pulse rise time V/µsec max. operation/test							
	63 VDC	100 VDC	160 VDC	250 VDC	400 VDC	630 VDC	1000 VDC	1500 VDC
3300 ... 6800	–	–	–	–	–	–	–	90/900
0.01 ... 0.022	–	35/350	–	38/380	38/380	40/400	50/500	50/500
0.033 ... 0.068	–	22/220	–	19/190	21/210	32/320	26/260	35/350
0.1 ... 0.22	9/90	10/100	13/130	14/140	12/120	17/170	20/200	35/350
0.33 ... 0.68	9/90	8/80	11/110	9/90	10/100	13/130	20/200	–
1.0 ... 2.2	6/60	4.5/45	6.5/65	6/60	9/90	13/130	–	–
3.3 ... 6.8	3/30	3/30	5/50	6/60	–	–	–	–
10 ... 22	2.5/25	2.5/25	–	–	–	–	–	–

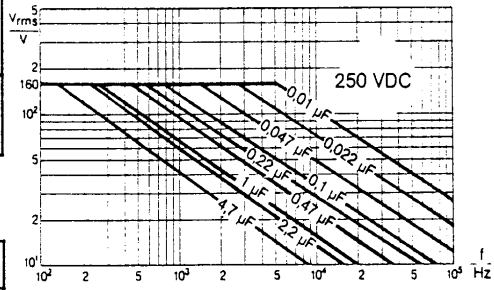
for pulses equal to the rated voltage.
Test voltage: 1.6 Vr, 2 sec.
Vibration: 6 hours at 10...2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 68-2-6.
Low air density: 1 kPa = 10 mbar in accordance with IEC 68-2-13.
Bump test: 4000 bumps at 390 m/sec² in accordance with IEC 68-2-29.
Voltage derating: A voltage derating factor of 1.25 % per K must be applied from + 85 °C for DC voltages and from + 75 °C for AC voltages.

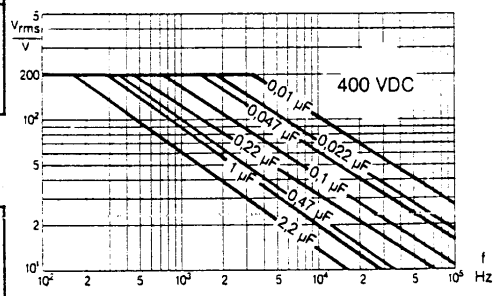
Graphs see page 5.

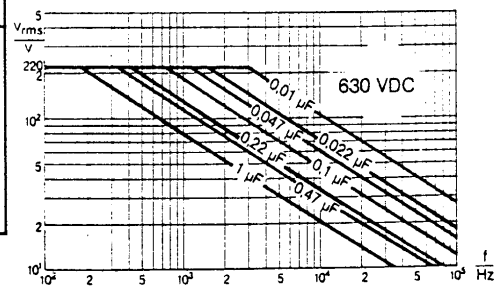
Permissible AC voltages in relation to frequency at 10° C internal temperature rise (general guide): ▼

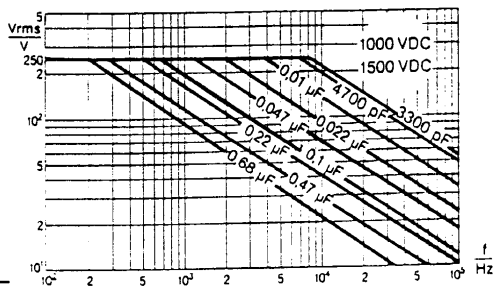










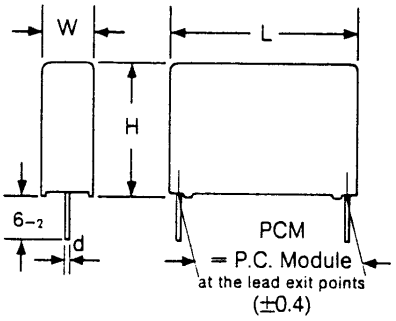


WIMA MKS 4

General Data

Capac-itance	63 VDC/40 VAC*				100 VDC/63 VAC*				160 VDC/100 VAC*				250 VDC/160 VAC*				400 VDC/200 VAC*			
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**
0.01 µF					4	9	10	7.5					4	9	13	10	4	9	13	10
0.015 „					4	9	10	7.5					4	9	13	10	4	9	13	10
0.022 „					4	9	10	7.5					4	9	13	10	4	9	13	10
0.033 „					4	9	10	7.5					4	9	13	10	4	9.5	13	10
0.047 „					4	9	10	7.5					4	9	13	10	5	11	18	15
0.068 „					4	9	10	7.5					4	9	13	10	5	11	18	15
0.1 µF					4	9	10	7.5*	4	9	13	10*	4	9.5	13	10*	6	12.5	18	15
„					4	9	13	10*					5	11	18	15*				
0.15 „					4	9	10	7.5*	4	9.5	13	10*	5	11	18	15	7	14	18	15
„					4	9	13	10*												
0.22 „	4	9	10	7.5*	4	9.5	13	10	5	11	13	10*	5	11	18	15	6	15	26.5	22.5
„	4	9.5	13	10*																
0.33 „	4.5	9.5	10.3	7.5*	5	11	18	15	5	11	18	15*	6	12.5	18	15	7	16.5	26.5	22.5
„	4	9.5	13	10*																
0.47 „	5	10.5	10.3	7.5*	5	11	18	15	6	12.5	18	15*	7	16.5	26.5	22.5	8.5	18.5	26.5	22.5
„	4	9.5	13	10*																
0.68 „	5.7	12.5	10.3	7.5*	6	12.5	18	15	7	14	18	15*	7	16.5	26.5	22.5	11	21	31.5	27.5
„	5	11	13	10*																
1.0 µF	5	11	13	10*	7	14	18	15	7	16.5	26.5	22.5*	8.5	18.5	26.5	22.5	11	21	31.5	27.5
„	6	12.5	18	15*																
1.5 „	7	14	18	15	7	16.5	26.5	22.5	7	16.5	26.5	22.5*	9	19	31.5	27.5	13	24	31.5	27.5*
2.2 „	8	15	18	15	8.5	18.5	26.5	22.5	10.5	19	26.5	22.5*	11	21	31.5	27.5	17	34.5	31.5	27.5*
3.3 „	7	16.5	26.5	22.5	10.5	19	26.5	22.5*	11	21	26.5	22.5*	13	24	31.5	27.5*				
4.7 „	8.5	18.5	26.5	22.5	11	21	31.5	27.5*	13	24	31.5	27.5*	17	29	31.5	27.5*				
6.8 „	10.5	19	26.5	22.5*	13	24	31.5	27.5*												
10 µF	11	21	31.5	27.5*	15	26	31.5	27.5*												
15 „	13	24	31.5	27.5*	17	34.5	31.5	27.5*												
22 „	15	26	31.5	27.5*																

Capac-itance	630 VDC/220 VAC*				1000 VDC/250 VAC*				1500 VDC/250 VAC*			
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**
3300 pF									5	11	18	15*
4700 „									5	11	18	15*
6800 „									6	12.5	18	15*
0.01 µF	4	9	13	10*	5	11	18	15*	6	12.5	18	15*
0.015 „	4	9	13	10*	5	11	18	15*	8	15	18	15*
0.022 „	5	11	13	10*	6	12.5	18	15*	7	16.5	26.5	22.5*
0.033 „	5	11	18	15*	8	15	18	15*	8.5	18.5	26.5	22.5*
0.047 „	6	12.5	18	15*	6	15	26.5	22.5*	8.5	18.5	26.5	22.5*
0.068 „	7	14	18	15*	7	16.5	26.5	22.5*	11	21	26.5	22.5*
0.1 µF	8	15	18	15**	8.5	18.5	26.5	22.5*	11	21	31.5	27.5*
	7	16.5	26.5	22.5*								
0.15 „	7	16.5	26.5	22.5*	11	21	26.5	22.5*	15	26	31.5	27.5*
0.22 „	8.5	18.5	26.5	22.5*	11	21	31.5	27.5*	17	29	31.5	27.5*
0.33 „	10.5	19	26.5	22.5*	13	24	31.5	27.5*				
	9	19	31.5	27.5*								
0.47 „	11	21	31.5	27.5*	17	29	31.5	27.5*				
0.68 „	13	24	31.5	27.5*	20	39.5	31.5	27.5*				
1.0 „	15	26	31.5	27.5*								



d = 0.7 ø if PCM 7.5 and 10
d = 0,8 ø if PCM 15 ... 27.5
d = 1.0 ø if PCM 27.5 and body > 15 × 26 × 31.5

Dims. in mm.

Taped version see page 10.

* AC voltage: f = 50 Hz; 1.4 × Vrms + VDC ⩽ VDC (rated)

** PCM = Printed circuit module = lead spacing

* On ordering please state the required PCM (lead spacing).

* Produced in accordance with CECC.