

# WIMA FKS 2



## Polyester film and foil capacitors for pulse applications in PCM 5 mm

- Low induction and low damping with high resonant frequency.
- Low ESR because of metal foil electrodes and end-surface contacts.
- High pulse duty.
- Reservoir and decoupling capacitors for high-speed digital circuits.
- Available taped and reeled.

### Technical Data

**Dielectric:** Polyethylene terephthalate film.

**Capacitor electrodes:** Metal foil.

**Encapsulation:** Flame retardent plastic case, UL 94 V-0, with epoxy resin seal.

Colour: Blue. Marking: Black.

**Temperature range:** -55° C to +100° C.

**Test specifications:** In accordance with IEC 60384-11 and EN 130100.

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

**Insulation resistance at +20° C:**

$\geq 3 \times 10^4$  megohms

(mean value:  $8 \times 10^5$  megohms).

In accordance with IEC 60384-11 and EN 130100.

Measuring voltage: 100 V/1 min.

**Dissipation factors at +20° C:**

$\tan \delta \leq 7 \times 10^{-3}$  at 1 kHz

$\tan \delta \leq 15 \times 10^{-3}$  at 10 kHz

$\tan \delta \leq 20 \times 10^{-3}$  at 100 kHz

**Capacitance tolerances:** +/-20%, +/-10%, +/-5%.

**Maximum pulse rise time:** 1000 V/microsecond for pulses equal to the rated voltage.

**Test voltage:** 2 Vr, 2 sec.

[Graphs:](#)

[Taping:](#)

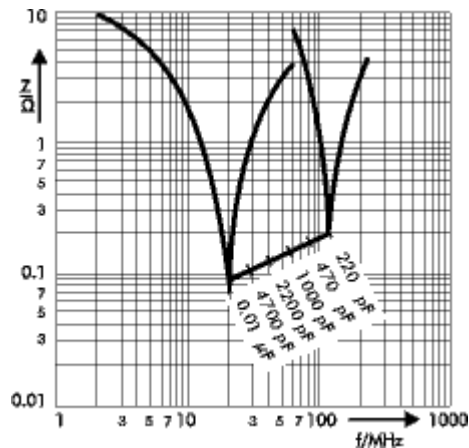
**Vibration:** 6 hours at 10...2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6.

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

**Bump test:** 4000 bumps at 390 m/sec<sup>2</sup> in accordance with IEC 60068-2-29.

**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.

Impedance change with frequency (general guide)



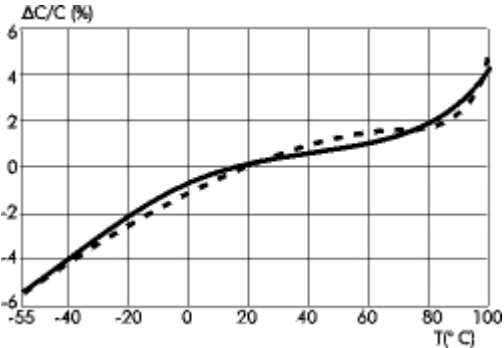
### General Data

Capacitance	100VDC/63VAC*				250VDC/160VAC*				400VDC/200VAC*				*AC voltage: f = 50 Hz; 1.4 x Urms + UDC ≤ Ur **PCM = Printed circuit module = lead spacing.
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	
220 pF	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	Dims. in mm  d = 0.5 Ø 6 - 2 PCM = P.C. Module at the lead exit points (± 0.5)
330 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
470 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
680 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
1000pF	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
1500 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
2200 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
3300 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
4700 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	
6800 "	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3	7.5	7.2	5	
0.01 µF	3	7.5	7.2	5	3	7.5	7.2	5	3.5	8.5	7.2	5	

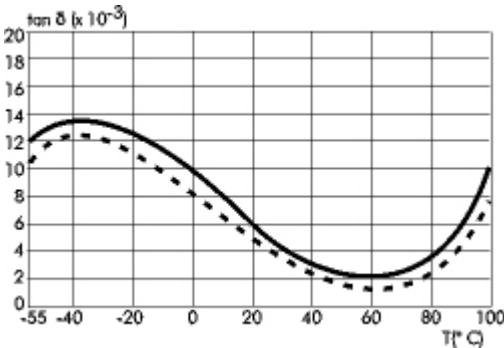
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# Polyester

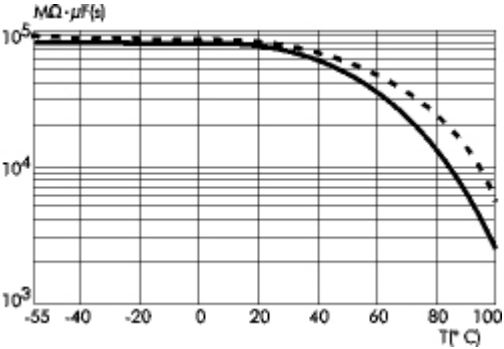
## Typical graphs of the polyester dielectric



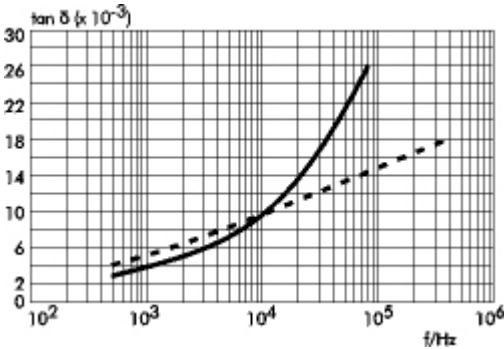
Capacitance change with temperature (f=1 kHz) (general guide)



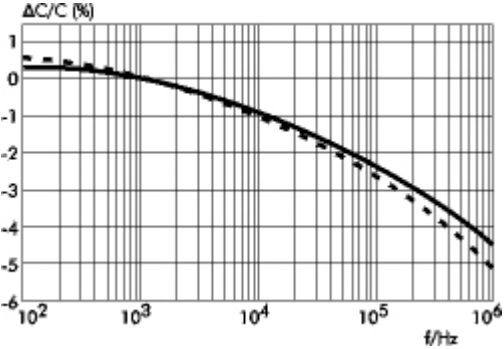
Dissipation factor change with temperature (f=1 kHz) (general guide)



Insulation resistance change with temperature (general guide)



Dissipation factor change with frequency (general guide)



Capacitance change with frequency (general guide)

**Annotation:**  
 The full lines characterize the metallized versions  
 The broken lines show the film/foil types



centre to top edge of the component	H <sub>l</sub>	H+H <sub>component</sub> < H <sub>l</sub> 32.25 max.	H+H <sub>component</sub> < H <sub>l</sub> 32.25 max.	< H <sub>l</sub> 24.25 to 31.5	< H <sub>l</sub> 25.0 to 31.5.	< H <sub>l</sub> 26.0 to 37.0	< H <sub>l</sub> 30.0 to 43.0	< H <sub>l</sub> 35.0 to 45.0
Lead spacing	F	2.5 <sub>±0.5</sub>	5 <sub>+0.8/-0.2</sub>	7.5 <sub>±0.8</sub>	10.0 <sub>±0.8</sub>	15.0 <sub>±0.8</sub>	22.5 <sub>±0.8</sub>	27.5 <sub>±0.8</sub>
Lead diameter	d	0.4 <sub>+0.05</sub>	0.5 <sub>+0.05</sub>	*0.5 <sub>+0.05</sub> or 0.7 <sub>+0.07/-0.05</sub>	*0.5 <sub>+0.05</sub> or 0.7 <sub>+0.07/-0.05</sub>	0.8 <sub>+0.08/-0.05</sub>	0.8 <sub>+0.08/-0.05</sub>	*0.8 <sub>+0.08/-0.05</sub> or 1.0 <sub>+0.1/-0.0</sub>
Component alignment	delta h	±2.0 max.	±2.0 max.	±3.0 max.	±3.0 max.	±3.0 max.	±3.0 max.	±3.0 max.
Total tape thickness	t	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>	0.7 <sub>±0.2</sub>
Package	**	<b>ROLL / AMMO / REEL</b>			<b>AMMO / REEL</b>			

\*\*\*Please give "H" dimension and desired packaging type when ordering.

\* Diameter of leads see General Data.

\*\* PCM 10 and PCM 15 can be crimped to PCM 7.5 mm. Position of components according to PCM 7.5 (sketch 1). P<sub>0</sub> = 12.7 or 15.0 is possible.

Dims. in mm.

### **Minimum packing units for capacitors with radial leads**

Please clarify customer-specific deviations with the manufacturer.