

FILM CAPACITORS – MADE IN GERMANY

FILM/FOIL CAPACITORS

OVERVIEW FKS 2 FKP 2 FKS 3 FKP 3 APPLICATIONS



In the case of film and foil types, the electrode is not applied as for the metallized capacitors, but is wound with the dielectric as a metal foil. Due to their lower series resistance, the components produced this way have excellent pulse and current carrying capability, as well as a very high insulation resistance.

The film/foil construction is mainly used for capacitors with smaller capacitance value. The advantage of this construction principle is the easy contactability of the metal foil electrodes and the good pulse strength. To avoid breakdowns caused by weak spots in the dielectric, the insulating film chosen is always thicker than theoretically required by the values which are determined from the specific breakdown strength of the material.

WIMA film/foil capacitors in PCM 5 mm to 15 mm are available in two dielectric versions. WIMA capacitors with a Polyester dielectric (PET) are suitable for general applications such as coupling, decoupling and by-passing. Polypropylene capacitors (PP) are used in the high frequency field. This includes resonant circuits, power supplies, deflection circuits, oscillator circuits and audio equipment.

WIMA film/foil capacitors in PCM 5 mm to 15 mm are available with capacitance values from 33 pF to 0.22 µF and rated voltages from 63 VDC to 1000 VDC.

Dielectric	PCM 5 - 15 mm																						
	film/foil										film/foil												
	FKS 2					FKP 2					FKS 3					FKP 3							
Polyester film	55/100/56					55/100/56					55/100/56					55/100/56							
Test category in accordance with IEC	55/100/56					55/100/56					55/100/56					55/100/56							
Temperature range	-55°C to +105°C					-55°C to +100°C					-55°C to +105°C					-55°C to +105°C							
Dissipat. factor tanδ at 1 kHz and +20°C	$\leq 7 \times 10^{-3}$					$\leq 5 \times 10^{-4}$					$\leq 7 \times 10^{-3}$					$\leq 5 \times 10^{-4}$							
Insulation resistance at+20°C*	$\geq 1 \times 10^5 \text{ M}\Omega$					$\geq 3 \times 10^5 \text{ M}\Omega$					$\geq 1 \times 10^5 \text{ M}\Omega$					$\geq 3 \times 10^5 \text{ M}\Omega$							
Voltage ranges VDC Capacitances	63	100	250	400	630	63	100	250	400	630	800	1000	100	250	400	630	63	100	250	400	630	850	1000
27 pF																							
33 pF																							
47 pF																							
68 pF																							
100 pF																							
150 pF																							
220 pF																							
330 pF																							
470 pF																							
680 pF																							
1000 pF	5	5	5	5	5																		
1500 pF																							
2200 pF																							
3300 pF																							
4700 pF																							
6800 pF																							
0.01 µF																							
0.015 µF																							
0.022 µF																							
0.033 µF																							
0.047 µF																							
0.068 µF																							
0.1 µF																							
0.15 µF																							
0.22 µF																							
0.33 µF																							
0.47 µF																							
0.68 µF																							
1.0 µF																							
1.5 µF																							
2.2 µF																							
3.3 µF																							
4.7 µF																							
6.8 µF																							
10 µF																							
Capacitance tolerances	$\pm 20\%, \pm 10\%, \pm 5\%$					$\pm 20\%, \pm 10\%, \pm 5\%, \pm 2.5\% (\pm 2\%, \pm 1.5\%, \pm 1\%*)$					$\pm 20\%, \pm 10\%, \pm 5\%$					$\pm 20\%, \pm 10\%, \pm 5\%$							
	FKS 2					FKP 2					FKS 3					FKP 3							

* The insulation resistance data refers to the lowest rated voltage of each range.

* Available subject to special enquiry.



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CONTACT

WIMA GmbH & Co. KG
Besselstr. 2 - 4
68219 Mannheim

Phone: [+49 621 86295-0](tel:+4962186295-0)
Fax: +49 621 86295-48

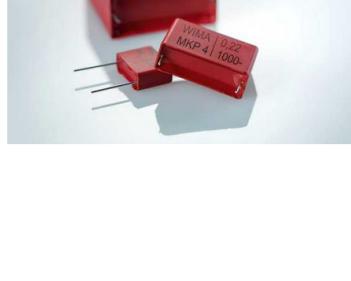
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FILM CAPACITORS – MADE IN GERMANY

KS 4 MKP 4 APPLICATIONS

In the case of metallized capacitors deposited on the insulating film



Metallized WIMA capacitors in PCM 5 mm - 52.5 mm are available in two dielectric versions. Capacitors with a Polyester dielectric (PET) are suitable for general applications such as coupling, decoupling and by-passing. By making use of ultra thin film and appropriate coating, it is possible to achieve a high quality insulation.

Upon customer request, larger box sizes can be supplied in 4-pin versions. Types with terminating plates can also be manufactured on request. The advantage of this method of construction, besides the improved mechanical stability of the component on the board, is the excellent electrical contact reliability.

WIMA capacitors are produced with the proven box technology using solvent-resistant, flame-retardant plastic cases according to UL 94 V-0. They are environmentally compatible with the RoHS 2015/863/EU regulations of the European Union.

MKP 2	metallized	MKS 4
Polypropylene film		Polyester film

accordance with IEC																												
Temperature range	U _r = 50 VDC: -55°C to +105°C U _r ≥ 63 VDC: -55°C to +125°C						-55°C to +100°C						U _r = 50 VDC: -55°C to +105°C U _r ≥ 63 VDC: -55°C to +125°C						-55°C to +105°C									
Dissipation factor tanδ at 1 kHz and +20°C	≤ 8 x 10 ⁻³ > 1.0 μF: ≤ 10 x 10 ⁻³						≤ 5 x 10 ⁻⁴						≤ 8 x 10 ⁻³ > 1 μF: ≤ 10 x 10 ⁻³						≤ 6 x 10 ⁻⁴									
Insulation resistance at +20°C*	≥ 5 x 10 ³ MΩ > 0.33 μF: ≥ 1000 sec						≥ 1 x 10 ⁵ MΩ						≥ 5 x 10 ³ MΩ > 0.33 μF: ≥ 1500 sec						≥ 1 x 10 ⁵ MΩ > 0.33 μF: ≥ 30000 sec									
Voltage ranges VDC Capacitances	50	63	100	250	400	630	63	100	250	400	630	800	1000	50	63	100	250	400	630	1000	1500	2000	100	250	400	630	1000	1250
1000 pF																												
1500 pF																												
2200 pF																												
3300 pF																												
4700 pF																												
6800 pF																												
0.01 μF	5	5	5	5	5	5	5	5	5	5	5	5	5															
0.015 μF																												
0.022 μF																												
0.033 μF																												
0.047 μF																												
0.068 μF																												
0.1 μF																												
0.15 μF																												
0.22 μF																												
0.33 μF		5																										
0.47 μF																												
0.68 μF																												
1.0 μF																												
1.5 μF																												
2.2 μF																												
3.3 μF																												
4.7 μF																												
6.8 μF																												
10 μF														15	22.5	27.5		37.5	52.5									
15 μF														22.5														
22 μF														27.5	27.5													
33 μF																												
47 μF																												
68 μF																												
100 μF														37.5	52.5													
150 μF														37.5														
220 μF																												
330 μF																												
470 μF														52.5	52.5													
680 μF														52.5	52.5													
Capacitance tolerances	±20%, ±10%, ±5%						±20%, ±10%, ±5%						±20%, ±10%, ±5%						±20%, ±10%, ±5%									
	MKS 2						MKP 2						MKS 4						MKP 4									

specialist in fi
innovation an

Our strength lies in the production and design not only of standard but also of custom products requiring experience and highly developed expertise. Solutions can therefore

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Phone: +49 621
Fax: +49 621

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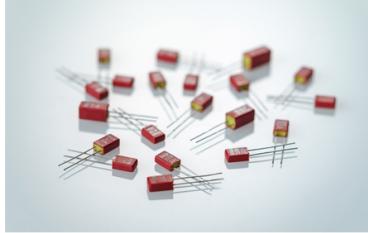


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FILM CAPACITORS – MADE IN GERMANY

MINIATURE CAPACITORS IN PCM 2.5

OVERVIEW FKP 02 MKS 02 APPLICATIONS



WIMA plastic film capacitors in PCM 2.5 mm are available in metallized, self-healing version WIMA MKS 02 or in pulse duty film and foil version WIMA FKP 02. As a dielectric, Polyester or Polypropylene is used. The capacitance range includes values of 100 pF through 1.0 µF and voltage ratings of 50 VDC, 63 VDC, 100 VDC, 250 VDC and 400 VDC.

The realization of the smallest plastic film capacitors in the world has been made possible by the use of ultra-thin plastic film in thicknesses of 0.8 µm and below. The film processing with highly sensitive machines requires a high degree of experience and technical know-how.

The WIMA series with 2.5 mm PCM are contacted at the end surfaces and have very low self-inductance due to the small pin spacing of the capacitor and its fully contacted electrodes. Furthermore, the pulse and current loading capacities basically increase, the smaller the PCM can be designed, because - provided that the thickness of the film is the same - a longer band length is needed to achieve a particular capacitance value.

WIMA capacitors in PCM 2.5 mm are outstandingly suitable for HF decoupling in the field of high frequencies and open up new possibilities for use in applications with limited space requirements and high packing density.

	PCM 2.5 mm										
	film/foil				metallized						
	FKP 02				MKS 02						
Dielectric	Polypropylene film				Polyester film						
Test category in accordance with IEC	55/100/21				55/105/21						
Temperature range	-55°C to +100°C				-55°C to +105°C						
Dissipation factor tanδ at 1 kHz and +20°C	$\leq 5 \times 10^{-4}$				$\leq 8 \times 10^{-3}$						
Insulation resistance at +20°C*	$\geq 3 \times 10^5 \text{ M}\Omega$				$\geq 3.75 \times 10^3 \text{ M}\Omega$ $> 0.33 \mu\text{F}: \geq 1250 \text{ sec}$						
Voltage ranges VDC Capacitances	63	100	250	400	63	100	250	400			
100 pF	2.5	2.5	2.5	2.5							
150 pF											
220 pF											
330 pF											
470 pF											
680 pF											
1000 pF											
1500 pF											
2200 pF											
3300 pF											
4700 pF											
6800 pF											
0.01 µF					2.5	2.5					
0.015 µF											
0.022 µF											
0.033 µF											
0.047 µF											
0.068 µF											
0.1 µF											
0.15 µF											
0.22 µF											
0.33 µF											
0.47 µF											
0.68 µF											
1.0 µF											
Capacitance tolerances	$\pm 20\%, \pm 10\%, \pm 5\%, \pm 2.5\%$				$\pm 20\%, \pm 10\%, (\pm 5\%*)$						
	FKP 02				MKS 02						

* The insulation resistance data refers to the lowest rated voltage of each range.

* Available subject to special enquiry.

ABOUT US

As the world's leading manufacturer, we develop and manufacture high-quality film capacitors for professional use in all areas of electronics.

As privately owned company since 1948 we are producing exclusively in Germany. As specialist in film capacitors our goal is to achieve customer satisfaction in terms of quality, innovation and service.

Our strength lies in the production and design not only of standard but also of customized products requiring experience and highly developed expertise. Solutions can therefore be offered to all customer needs.

CONTACT

WIMA GmbH & Co. KG
Besselstr. 2 – 4
68219 Mannheim

Phone: +49 621 86295-0
Fax: +49 621 86295-48

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FILM CAPACITORS – MADE IN GERMANY

PULSE CAPACITORS

OVERVIEW	MKP 10	FKP 4	FKP 1	APPLICATIONS
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An important construction criterion in the manufacture of reliable, self-healing capacitors for pulse applications is the current-carrying capacity of the contacts, i.e. the connection between the terminating wires and the electrodes.

The construction principle of the series WIMA MKP 10 consists of a non-metallized dielectric film and an carrier film metallized on both sides acting as electrode. Thanks to the metallization on both sides, the electrical conductivity is considerably improved and the contact surface between the electrodes and the schoopage layer is doubled. This results in better contact and allows for high current and pulse loading capability. The properties of metallized capacitors such as excellent self-healing and high volume capacitance remain unchanged.

The WIMA FKP 4 is a range of self-healing film/foil Polypropylene capacitors made with a single metallized plastic film and metal foil electrodes in series connection. This construction features a high volume capacitance and at the same time high pulse loading capability.

The WIMA FKP 1 series was developed for extremely high pulse loads. It has an internal series connection, the metal foil electrodes being combined with a floating electrode metallized on both sides. The metal foil electrodes are safely contacted on both sides of the end surfaces. At the same time the capacitor is fully self-healing due to the floating electrode metallized on both sides. As regards pulse loading capability, WIMA FKP 1 represents the high-end of capacitor technology.

WIMA pulse capacitors are suitable for high pulse and high frequency applications in e.g. switch mode power supplies, TV and monitor sets, lighting industry, audio/video equipment, converters in drives and power electronics or in electronic ballasts. They are available with capacitances from 100 pF through 47 µF and with voltage ratings from 100 VDC through 6000 VDC.

Capacitance	For high current ratings																				
	with double-metallized film electrodes										with metal foil electrodes. internally series-connected					with metal foil electrodes. internally series-connected					
	MKP 10										FKP 4					FKP 1					
Dielectric	Polypropylene film										Polypropylene film					Polypropylene film					
Test category in accordance with IEC	55/100/56										55/100/56					55/100/56					
Temperature range	-55°C to +105°C										-55°C to +105°C					-55°C to +105°C					
Dissipat. factor tanδ at 1 kHz and +20°C	$\leq 6 \cdot 10^{-4}$										$\leq 5 \cdot 10^{-4}$					$\leq 5 \cdot 10^{-4}$					
Insulation resistance at +20°C*	$\geq 1 \times 10^5 \text{ M}\Omega$ $> 0.33\mu\text{F} : \geq 30000 \text{ sec}$										$\geq 1 \times 10^5 \text{ M}\Omega$ $> 0.1\mu\text{F} : \geq 10000 \text{ sec}$					$\geq 1 \times 10^5 \text{ M}\Omega$ $> 0.1\mu\text{F} : \geq 30000 \text{ sec}$					
Voltage ranges VDC Capacitances	100	250	400	630	850	1000	1600	2000	2500	3000	400	630	1000	1250	1600	2000	400	630	1000	1250	1600
100 pF																	15				15
150 pF																					
220 pF																					
330 pF																					
470 pF																					
680 pF																					
1000 pF			7.5	7.5	7.5	7.5	10	10	15							15				15	15
1500 pF																					
2200 pF																					
3300 pF																					
4700 pF																					
6800 pF																					
0.01 µF	7.5	7.5			10	10	15				22.5	22.5	15	15	15	15	22.5				
0.015 µF																					
0.022 µF																					
0.033 µF																					
0.047 µF																					
0.068 µF	10	10	15				22.5	22.5			27.5	27.5	22.5	22.5	22.5	22.5	27.5				
0.1 µF																					
0.15 µF	15	15					22.5	22.5			27.5	27.5	22.5	22.5	22.5	22.5	37.5				
0.22 µF																					
0.33 µF																					
0.47 µF																					
0.68 µF	22.5	22.5					37.5	37.5			52.5	52.5	37.5	37.5	37.5	37.5	52.5				
1.0 µF																					
1.5 µF	27.5	27.5					37.5	37.5			52.5	52.5	37.5	37.5	37.5	37.5	52.5				
2.2 µF																					
3.3 µF																					
4.7 µF																					
6.8 µF	37.5	37.5																			
10 µF																					
15 µF																					
22 µF																					
33 µF																					
47 µF	52.5																				
Capacitance tolerances	$\pm 20\%, \pm 10\%, \pm 5\%$										$\pm 20\%, \pm 10\%, \pm 5\%$, (other tolerances*)					$\pm 20\%, \pm 10\%, \pm 5\%$, (other tolerances*)					
	MKP 10										FKP 4					FKP 1					