

Metallized Polyester (PET) Capacitors in PCM 2.5 mm

Special Features

- High volume/capacitance ratio and reduced base
- PCM 2.5 mm
- Self-healing
- According to RoHS 2002/95/EC

Typical Applications

For general DC-applications e.g.

- By-pass
- Blocking
- Coupling and decoupling
- Timing

Construction

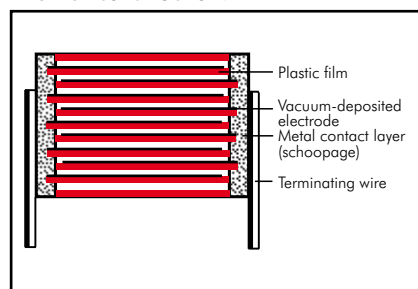
Dielectric:

Polyethylene-terephthalate (PET) film

Capacitor electrodes:

Vacuum-deposited

Internal construction:



Encapsulation:

Solvent-resistant, flame-retardant plastic case with epoxy resin seal, UL 94 V-0

Terminations:

Tinned wire.

Marking:

Colour: Red. Marking: Silver.

Epoxy resin seal: Yellow

Electrical Data

Capacitance range:

3300 pF to 1.0 μ F (E12-values on request)

Rated voltages:

50 VDC, 63 VDC, 100 VDC, 250 VDC

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$ ($\pm 5\%$ available subject to special enquiry)

Operating temperature range:

-55°C to $+100^{\circ}\text{C}$ ($+125^{\circ}\text{C}$ available subject to special enquiry)

Test specifications:

In accordance with IEC 60384-2 and EN 130400

Climatic test category:

55/100/21 in accordance with IEC

Insulation resistance at $+20^{\circ}\text{C}$:

U_r	U_{test}	$C \leq 0.33 \mu\text{F}$	$0.33 \mu\text{F} < C \leq 1.0 \mu\text{F}$
50 VDC	10 V	$\geq 3.75 \times 10^3 \text{ M}\Omega$ (mean value: $1 \times 10^4 \text{ M}\Omega$)	$\geq 1250 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 3000 sec)
63 VDC	50 V	$\geq 3.75 \times 10^3 \text{ M}\Omega$ (mean value: $1 \times 10^4 \text{ M}\Omega$)	$\geq 1250 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 3000 sec)
$\geq 100 \text{ VDC}$	100 V	$\geq 1 \times 10^4 \text{ M}\Omega$ (mean value: $2 \times 10^4 \text{ M}\Omega$)	—

Measuring time: 1 min.

Test voltage: $1.6 U_r$, 2 sec.

Maximum pulse rise time:

Capacitance pF/ μ F	Pulse rise time V/ μ sec max. operation/test
3300 ... 6800	100 / 1000
0.01 ... 0.022	50 / 500
0.033 ... 0.068	30 / 300
0.1 ... 0.33	20 / 200
0.47 ... 1.0	15 / 150

for pulses equal to the rated voltage

Mechanical Tests

Pull test on pins:

10 N in direction of pins according to IEC 60068-2-21

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:

1kPa = 10 mbar in accordance with IEC 60068-2-13

Bump test:

4000 bumps at 390 m/sec² in accordance with IEC 60068-2-29

Dissipation factors at $+20^{\circ}\text{C}$: $\tan \delta$

at f	$C \leq 0.1 \mu\text{F}$	$0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$
1 kHz	$\leq 8 \times 10^{-3}$	$\leq 8 \times 10^{-3}$
10 kHz	$\leq 15 \times 10^{-3}$	$\leq 15 \times 10^{-3}$
100 kHz	$\leq 30 \times 10^{-3}$	—

Voltage derating:

A voltage derating factor of 1.25 % per K must be applied from $+85^{\circ}\text{C}$ for DC voltages and from $+75^{\circ}\text{C}$ for AC voltages.

Reliability:

Operational life > 300 000 hours

Failure rate < 2 fit ($0.5 \times U_r$ and 40°C)

Packing

Available taped and reeled.

Detailed taping information and graphs at the end of the catalogue.

For further details and graphs please refer to Technical Information.

Continuation

General Data

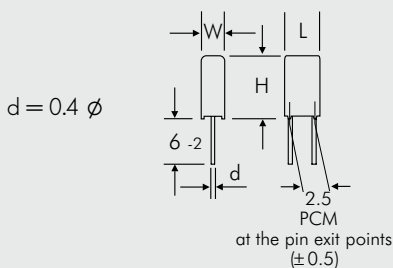
Capacitance	50 VDC/30 VAC*					63 VDC/40 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
0.01 μF						2.5	7	4.6	2.5	MKS0C021000B00_____
0.015 "						2.5	7	4.6	2.5	MKS0C021500B00_____
0.022 "						2.5	7	4.6	2.5	MKS0C022200B00_____
0.033 "						2.5	7	4.6	2.5	MKS0C023300B00_____
0.047 "						2.5	7	4.6	2.5	MKS0C024700B00_____
0.068 "						3	7.5	4.6	2.5	MKS0C026800C00_____
0.1 μF						3	7.5	4.6	2.5	MKS0C031000C00_____
0.15 "						3	7.5	4.6	2.5	MKS0C031500C00_____
0.22 "						3	7.5	4.6	2.5	MKS0C032200C00_____
0.33 "						3.8	8.5	4.6	2.5	MKS0C033300D00_____
0.47 "						4.6	9	4.6	2.5	MKS0C034700E00_____
0.68 "						5.5	10	4.6	2.5	MKS0C036800F00_____
1.0 μF	5.5	10	4.6	2.5	MKS0B041000F00_____					

Capacitance	100 VDC/63 VAC*					250 VDC/160 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
3300 pF						2.5	7	4.6	2.5	MKS0F013300B00_____
4700 "						2.5	7	4.6	2.5	MKS0F014700B00_____
6800 "						2.5	7	4.6	2.5	MKS0F016800B00_____
0.01 μF	2.5	7	4.6	2.5	MKS0D021000B00_____	2.5	7	4.6	2.5	MKS0F021000B00_____
0.015 "	2.5	7	4.6	2.5	MKS0D021500B00_____	2.5	7	4.6	2.5	MKS0F021500B00_____
0.022 "	2.5	7	4.6	2.5	MKS0D022200B00_____	2.5	7	4.6	2.5	MKS0F022200B00_____
0.033 "	2.5	7	4.6	2.5	MKS0D023300B00_____	3	7.5	4.6	2.5	MKS0F023300C00_____
0.047 "	2.5	7	4.6	2.5	MKS0D024700B00_____	3.8	8.5	4.6	2.5	MKS0F024700D00_____
0.068 "	3	7.5	4.6	2.5	MKS0D026800C00_____	4.6	9	4.6	2.5	MKS0F026800E00_____
0.1 μF	3	7.5	4.6	2.5	MKS0D031000C00_____	5.5	10	4.6	2.5	MKS0F031000F00_____
0.15 "	3.8	8.5	4.6	2.5	MKS0D031500D00_____					
0.22 "	4.6	9	4.6	2.5	MKS0D032200E00_____					
0.33 "	5.5	10	4.6	2.5	MKS0D033300F00_____					

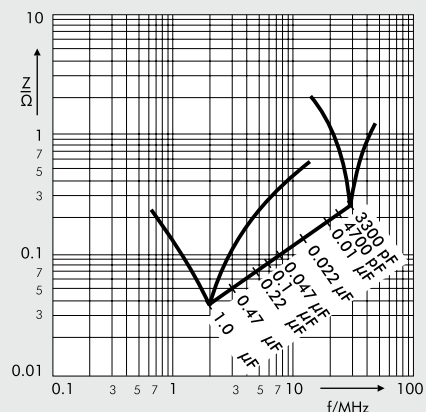
* AC voltage: $f = 50 \text{ Hz}$; $1.4 \times U_{\text{rms}} + U_{\text{DC}} \leq U_r$

** PCM = Printed circuit module = pin spacing

Dims. in mm.



Part number completion:	
Tolerance:	20 % = M 10 % = K 5 % = J
Packing:	bulk = S
Pin length:	6-2 = SD
Taped version see page 127.	



Impedance change with frequency
(general guide).

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Recommendation for Processing and Application of Through-Hole Capacitors

Soldering Process

A preheating of through-hole WIMA capacitors is allowed for temperatures $T_{\max} < 100^{\circ}\text{C}$. In practice a preheating duration of $t < 5$ min. has been proven to be best.

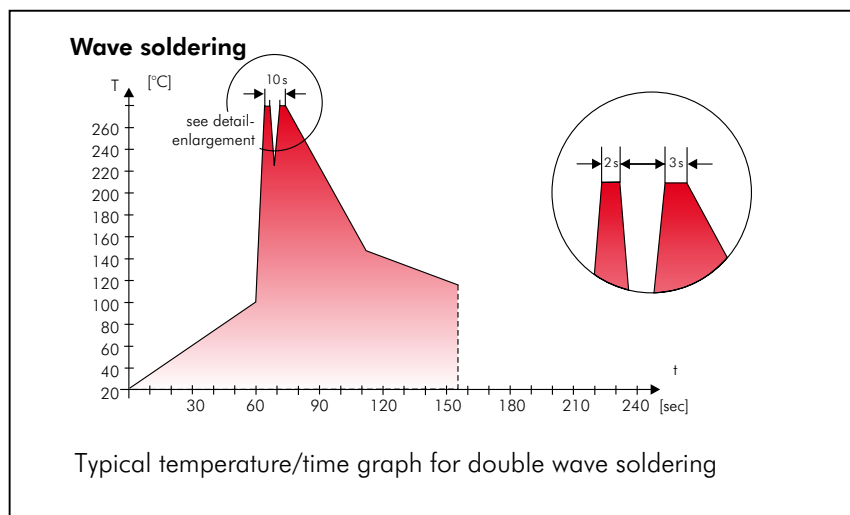
Single wave soldering

Soldering bath temperature: $T < 260^{\circ}\text{C}$
Immersion time: $t < 5$ sec

Double wave soldering

Soldering bath temperature: $T < 260^{\circ}\text{C}$
Immersion time: $2 \times t < 3$ sec

Due to different soldering processes and heat requirements the graphs are to be regarded as a recommendation only.



WIMA Quality and Environmental Philosophy

ISO 9001:2008 Certification

ISO 9001:2008 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2008 of our factories by the VDE inspectorate certifies that organisation, equipment and monitoring of quality assurance in our factories correspond to internationally recognized standards.

WIMA WPCS

The WIMA Process Control System (WPCS) is a quality surveillance and optimization system developed by WIMA. WPCS is a major part of the quality-oriented WIMA production. Points of application of WPCS during production process:

- incoming material inspection
- metallization
- film inspection
- schoopage
- pre-healing
- pin attachment
- cast resin preparation/encapsulation
- 100% final inspection
- AQL check

WIMA Environmental Policy

All WIMA capacitors, irrespective of whether through-hole devices or SMD, are made of environmentally friendly materials. Neither during manufacture nor in the product itself any toxic substances are used, e.g.

- | | |
|------------------------|------------|
| – Lead | – PBB/PBDE |
| – PCB | – Arsenic |
| – CFC | – Cadmium |
| – Hydrocarbon chloride | – Mercury |
| – Chromium 6+ | – etc. |

We merely use pure, recyclable materials for packing our components, such as:

- carton
- cardboard
- adhesive tape made of paper
- polystyrene

We almost completely refrain from using packing materials such as:

- foamed polystyrene (Styropor®)
- adhesive tapes made of plastic
- metal clips

RoHS Compliance

According to the RoHS Directive 2002/95/EC certain hazardous substances like e.g. lead, cadmium, mercury must not be used any longer in electronic equipment as of July 1st, 2006. For the sake of the environment WIMA has refrained from using such substances since years already.



WIMA Kondensatoren sind bleifrei
konform RoHS 2002/95/EG

WIMA capacitors are lead free
in accordance with RoHS 2002/95/EC

Tape for lead-free WIMA capacitors

DIN EN ISO 14001:2004

WIMA's environmental management has been established in accordance with the guidelines of DIN EN ISO 14001:2004 to optimize the production processes with regard to energy and resources.

Typical Dimensions for Taping Configuration

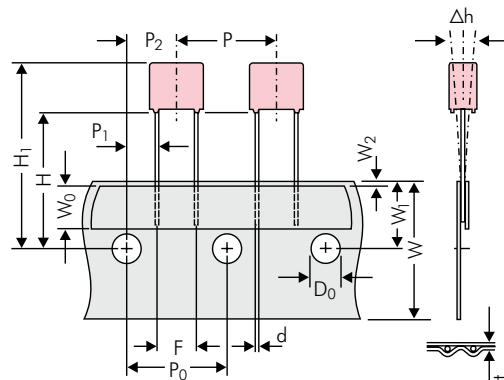


Diagram 1:
PCM 2.5/5/7.5mm

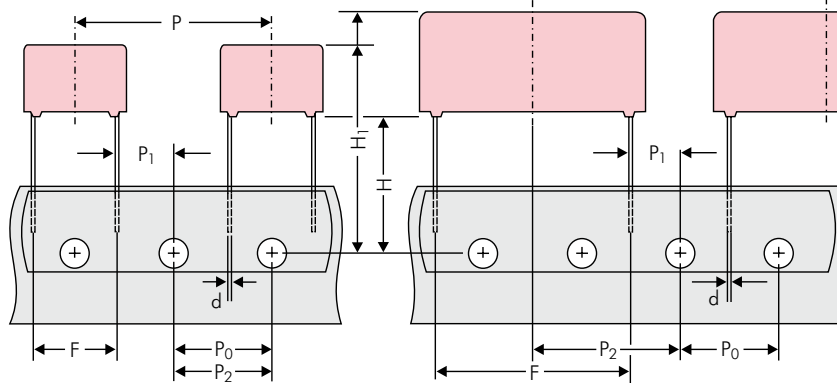


Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5*mm

*PCM 27.5 taping possible with two feed holes between components

Designation	Symbol	Dimensions for Radial Taping						
		PCM 2.5 taping	PCM 5 taping	PCM 7.5 taping	PCM 10 taping*	PCM 15 taping*	PCM 22.5 taping	PCM 27.5 taping
Carrier tape width	W	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5
Hold-down tape width	W ₀	6.0 for hot-sealing adhesive tape	6.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape
Hole position	W ₁	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5
Hold-down tape position	W ₂	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.
Feed hole diameter	D ₀	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2
Pitch of component	P	12.7 ±1.0	12.7 ±1.0	12.7 ±1.0	25.4 ±1.0	25.4 ±1.0	38.1 ±1.5	38.1 ±1.5 or 50.8 ±1.5
Feed hole pitch	P ₀	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch
Feed hole centre to pin	P ₁	5.1 ±0.5	3.85 ±0.7	2.6 ±0.7	7.7 ±0.7	5.2 ±0.7	7.8 ±0.7	5.3 ±0.7
Hole centre to component centre	P ₂	6.35 ±1.3	6.35 ±1.3	6.35 ±1.3	12.7 ±1.3	12.7 ±1.3	19.05 ±1.3	19.05 ±1.3
Feed hole centre to bottom edge of the component	H	16.5 ±0.3 18.5 ±0.5	16.5 ±0.3 18.5 ±0.5	16.5 ±0.5 18.5 ±0.5	16.5 ±0.5 18.5 ±0.5	16.5 ±0.5 18.5 ±0.5	16.5 ±0.5 18.5 ±0.5	16.5 ±0.5 18.5 ±0.5
Feed hole centre to top edge of the component	H ₁	H+H _{component} < H ₁ 32.25 max.	H+H _{component} < H ₁ 32.25 max.	H+H _{component} < H ₁ 24.5 to 31.5	H+H _{component} < H ₁ 25.0 to 31.5	H+H _{component} < H ₁ 26.0 to 37.0	H+H _{component} < H ₁ 30.0 to 43.0	H+H _{component} < H ₁ 35.0 to 45.0
Pin spacing at upper edge of carrier tape	F	2.5 ±0.5	5.0 ^{+0.8} _{-0.2}	7.5 ±0.8	10.0 ±0.8	15 ±0.8	22.5 ±0.8	27.5 ±0.8
Pin diameter	d	0.4 ±0.05	0.5 ±0.05	0.5 ±0.05 or 0.6 ^{+0.06} _{-0.05}	0.5 ±0.05 or 0.6 ^{+0.06} _{-0.05}	0.8 ^{+0.08} _{-0.05}	0.8 ^{+0.08} _{-0.05}	0.8 ^{+0.08} _{-0.05}
Component alignment	Δh	± 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 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2
Package (see also page 128)		ROLL/AMMO			AMMO			
		REEL ø 360 max. ø 30 ±1	B 52 ±2 58 ±2 } depending on comp. dimensions		REEL ø 360 max. ø 30 ±1	B 52 ±2 58 ±2 or 66 ±2	REEL ø 500 max. ø 25 ±1	B 54 ±2 60 ±2 or 68 ±2 } depending on PCM and component dimensions
Unit		see details page 130.						

Dims in mm.

* Diameter of pins see General Data.

Please clarify customer-specific deviations with the manufacturer.

* PCM 10 and PCM 15 can be crimped to PCM 7.5.

Position of components according to PCM 7.5 (sketch 11). P₀ = 12.7 or 15.0 is possible



Packing Quantities for Capacitors with Radial Pins in PCM 2.5 mm to 22.5 mm

PCM	Size				bulk	ROLL		REEL				AMMO			
						H16.5	H18.5	ø 360		ø 500		340 x 340		490 x 370	
	W	H	L	Codes				H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5
					S	N	O	F	I	H	J	A	C	B	D
2.5 mm	2.5	7	4.6	0B	5000		2200	2500		–		2800		–	
	3	7.5	4.6	0C	5000		2000	2300		–		2300		–	
	3.8	8.5	4.6	0D	5000		1500	1800		–		1800		–	
	4.6	9	4.6	0E	5000		1200	1500		–		1500		–	
	5.5	10	4.6	0F	5000		900	1200		–		1200		–	
5 mm	2.5	6.5	7.2	1A	5000		2200	2500		–		2800		–	
	3	7.5	7.2	1B	5000		2000	2300		–		2300		–	
	3.5	8.5	7.2	1C	5000		1600	2000		–		2000		–	
	4.5	6	7.2	1D	6000		1300	1500		–		1500		–	
	4.5	9.5	7.2	1E	4000		1300	1500		–		1500		–	
	5	10	7.2	1F	3500		1100	1400		–		1400		–	
	5.5	7	7.2	1G	4000		1000	1200		–		1200		–	
	5.5	11.5	7.2	1H	2500		1000	1200		–		1200		–	
	6.5	8	7.2	1I	2500		800	1000		–		1000		–	
	7.2	8.5	7.2	1J	2500		700	1000		–		1000		–	
	7.2	13	7.2	1K	2000		700	950		–		1000		–	
	8.5	10	7.2	1L	2000		600	800		–		800		–	
	8.5	14	7.2	1M	1500		600	800		–		800		–	
	11	16	7.2	1N	1000		500	700		–		700		–	
7.5 mm	2.5	7	10	2A	5000		–	2500		4400		2500		–	
	3	8.5	10	2B	5000		–	2200		4300		2300		4150	
	4	9	10	2C	4000		–	1700		3200		1700		3100	
	4.5	9.5	10.3	2D	3500		–	1500		2900		1400		2800	
	5	10.5	10.3	2E	3000		–	1300		2500		1300		–	
	5.7	12.5	10.3	2F	2000		–	1000		2200		1100		–	
	7.2	12.5	10.3	2G	1500		–	900		1800		1000		–	
10 mm	3	9	13	3A	3000		–	1100		2200		–		1900	
	4	8.5	13.5	FA	3000		–	900		1600		–		1450	
	4	9	13	3C	3000		–	900		1600		–		1450	
	4	9.5	13	3D	3000		–	900		1600		–		1400	
	5	10	13.5	FB	2000		–	700		1300		–		1200	
	5	11	13	3F	3000		–	700		1300		–		1200	
	6	12	13	3G	2400		–	550		1100		–		1000	
	6	12.5	13	3H	2400		–	550		1100		–		1000	
15 mm	8	12	13	3I	2000		–	400		800		–		740	
	5	11	18	4B	2400		–	600		1200		–		1150	
	5	13	19	FC	1000		–	600		1200		–		1200	
	6	12.5	18	4C	2000		–	500		1000		–		1000	
	6	14	19	FD	1000		–	500		1000		–		1000	
	7	14	18	4D	1600		–	450		900		–		850	
	7	15	19	FE	1000		–	450		900		–		850	
	8	15	18	4F	1200		–	400		800		–		740	
	8	17	19	FF	500		–	400		800		–		740	
	9	14	18	4H	1200		–	350		700		–		650	
	9	16	18	4J	900		–	350		700		–		650	
22.5 mm	10	18	19	FG	500		–	300		650		–		590	
	11	14	18	4M	1000		–	300		600		–		540	
	5	14	26.5	5A	1200		–	–		800		–		770	
	6	15	26.5	5B	1000		–	–		700		–		640	
	7	16.5	26.5	5D	760		–	–		600		–		550	
	8	20	28	FH	500		–	–		500		–		480	
	8.5	18.5	26.5	5F	500		–	–		480		–		450	
	10	22	28	FI	540*		–	–		420		–		380	
	10.5	19	26.5	5G	680*		–	–		400		–		360	
	10.5	20.5	26.5	5H	680*		–	–		400		–		360	
	11	21	26.5	5I	680*		–	–		380		–		350	
	12	24	28	FJ	450*		–	–		350		–		310	

* Tray Packing-System
Samples and pre-production needs on request.

■ Moulded versions.

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Packing Quantities for Capacitors with Radial Pins in PCM 2.5 mm to 22.5 mm

PCM	Size				bulk	ROLL		REEL				AMMO			
						H16.5	H18.5	pcs. per packing units		H16.5	H18.5	340 x 340		490 x 370	
	W	H	L	Codes				ø 360	ø 500			H16.5	H18.5	H16.5	H18.5
					S	N	O	F	I	H	J	A	C	B	D
27.5 mm	9	19	31.5	6A	640*	—	—	—	—	460/340*	—	—	—	420	—
	11	21	31.5	6B	544*	—	—	—	—	380/280*	—	—	—	350	—
	13	24	31.5	6D	448*	—	—	—	—	300	—	—	—	290	—
	13	25	33	6K	336*	—	—	—	—	270	—	—	—	250	—
	15	26	31.5	6F	384*	—	—	—	—	—	—	—	—	—	—
	15	26	33	6L	288*	—	—	—	—	—	—	—	—	—	—
	17	29	31.5	6G	176*	—	—	—	—	—	—	—	—	—	—
	17	34.5	31.5	6I	176*	—	—	—	—	—	—	—	—	—	—
	19	30	31.5	6L	50*	—	—	—	—	—	—	—	—	—	—
	20	32	33	6M	216*	—	—	—	—	—	—	—	—	—	—
37.5 mm	20	39.5	31.5	6J	144*	—	—	—	—	—	—	—	—	—	—
	9	19	41.5	7A	480*	—	—	—	—	—	—	—	—	—	—
	11	22	41.5	7B	408*	—	—	—	—	—	—	—	—	—	—
	13	24	41.5	7C	252*	—	—	—	—	—	—	—	—	—	—
	15	26	41.5	7D	144*	—	—	—	—	—	—	—	—	—	—
	17	29	41.5	7E	132*	—	—	—	—	—	—	—	—	—	—
	19	32	41.5	7F	108*	—	—	—	—	—	—	—	—	—	—
	20	39.5	41.5	7G	108*	—	—	—	—	—	—	—	—	—	—
	24	45.5	41.5	7H	84*	—	—	—	—	—	—	—	—	—	—
	31	46	41.5	7I	72*	—	—	—	—	—	—	—	—	—	—
48.5 mm	35	50	41.5	7J	35*	—	—	—	—	—	—	—	—	—	—
	40	55	41.5	7K	28*	—	—	—	—	—	—	—	—	—	—
	19	31	56	8D	50*	—	—	—	—	—	—	—	—	—	—
	23	34	56	8E	72*	—	—	—	—	—	—	—	—	—	—
52.5 mm	27	37.5	56	8H	60*	—	—	—	—	—	—	—	—	—	—
	33	48	56	8J	48*	—	—	—	—	—	—	—	—	—	—
	37	54	56	8L	25*	—	—	—	—	—	—	—	—	—	—
52.5 mm	35	50	57	9F	25*	—	—	—	—	—	—	—	—	—	—
	45	55	57	9H	20*	—	—	—	—	—	—	—	—	—	—
	45	65	57	9J	20*	—	—	—	—	—	—	—	—	—	—

* for 2-inch transport pitches.

* Tray Packing System

Samples and pre-production needs on request.

■ Moulded versions.

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A WIMA part number consists of 18 digits and is composed as follows:

- Field 1 - 4: Type description
- Field 5 - 6: Rated voltage
- Field 7 - 10: Capacitance
- Field 11 - 12: Size and PCM
- Field 13 - 14: Special features (e.g. Snubber versions)
- Field 15: Capacitance tolerance
- Field 16: Packing
- Field 17 - 18: Lead length (untaped)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
M	K	S	2	C	0	2	1	0	0	1	A	0	0	M	S	S	D
MKS 2				63 VDC		0.01 μF			2.5x6.5x7.2			-		20%	bulk	6 -2	
Type description:				Rated voltage:		Capacitance:			Size:			Tolerance:		Packing:			
SMD-PET = SMDT				2.5 VDC = A1		22 pF = 0022			4.8x3.3x3 Size 1812 = KA			20% = M		AMMO H16.5 340x340 = A			
SMD-PPS = SMDI				4 VDC = A2		47 pF = 0047			4.8x3.3x4 Size 1812 = KB			10% = K		AMMO H16.5 490x370 = B			
FKP 02 = FKP0				14 VDC = A3		100 pF = 0100			5.7x5.1x3.5 Size 2220 = QA			5% = J		AMMO H18.5 340x340 = C			
MKS 02 = MKS0				28 VDC = A4		150 pF = 0150			5.7x5.1x4.5 Size 2220 = QB			2.5% = H		AMMO H18.5 490x370 = D			
FKS 2 = FKS2				40 VDC = A5		220 pF = 0220			7.2x6.1x3 Size 2824 = TA			1% = E		REEL H16.5 360 = F			
FKP 2 = FKP2				5 VDC = A6		330 pF = 0330			7.2x6.1x5 Size 2824 = TB			...		REEL H16.5 500 = H			
MKS 2 = MKS2				50 VDC = B0		470 pF = 0470			10.2x7.6x5 Size 4030 = VA					REEL H18.5 360 = I			
MKP 2 = MKP2				63 VDC = C0		680 pF = 0680			12.7x10.2x6 Size 5040 = XA					REEL H18.5 500 = J			
FKS 3 = FKS3				100 VDC = D0		1000 pF = 1100			15.3x13.7x7 Size 6054 = YA					ROLL H16.5 = N			
FKP 3 = FKP3				160 VDC = E0		1500 pF = 1150			2.5x7x4.6 PCM 2.5 = 0B					ROLL H18.5 = O			
MKS 4 = MKS4				250 VDC = F0		2200 pF = 1220			3x7.5x4.6 PCM 2.5 = 0C					BLISTER W12 180 = P			
MKP 4 = MKP4				400 VDC = G0		3300 pF = 1330			2.5x6.5x7.2 PCM 5 = 1A					BLISTER W12 330 = Q			
MKP 10 = MKP1				450 VDC = H0		4700 pF = 1470			3x7.5x7.2 PCM 5 = 1B					BLISTER W16 330 = R			
FKP 4 = FKP4				600 VDC = I0		6800 pF = 1680			2.5x7x10 PCM 7.5 = 2A					BLISTER W24 330 = T			
FKP 1 = FKP1				630 VDC = J0		0.01 μF = 2100			3x8.5x10 PCM 7.5 = 2B					Bulk Standard = S			
MKP-X2 = MKX2				700 VDC = K0		0.022 μF = 2220			3x9x13 PCM 10 = 3A					TPS Standard = Y			
MKP-X2 R = MKXR				800 VDC = L0		0.047 μF = 2470			4x9x13 PCM 10 = 3C					...			
MKP-Y2 = MKY2				850 VDC = M0		0.1 μF = 3100			5x11x18 PCM 15 = 4B								
MP 3-X2 = MPX2				900 VDC = N0		0.22 μF = 3220			6x12.5x18 PCM 15 = 4C								
MP 3-X1 = MPX1				1000 VDC = O1		0.47 μF = 3470			5x14x26.5 PCM 22.5 = 5A								
MP 3-Y2 = MPY2				1100 VDC = P0		1 μF = 4100			6x15x26.5 PCM 22.5 = 5B								
MP 3R-Y2 = MPRY				1200 VDC = Q0		2.2 μF = 4220			9x19x31.5 PCM 27.5 = 6A								
Snubber MKP = SNMP				1250 VDC = R0		4.7 μF = 4470			11x21x31.5 PCM 27.5 = 6B								
Snubber FKP = SNFP				1500 VDC = S0		10 μF = 5100			9x19x41.5 PCM 37.5 = 7A								
GTO MKP = GTOM				1600 VDC = T0		22 μF = 5220			11x22x41.5 PCM 37.5 = 7B								
DC-LINK MKP 4 = DCP4				2000 VDC = U0		47 μF = 5470			94x49x182 DCH_ = H0								
DC-LINK MKP 5 = DCP5				2500 VDC = V0		100 μF = 6100			94x77x182 DCH_ = H1								
DC-LINK MKP 6 = DCP6				3000 VDC = W0		220 μF = 6220			...								
DC-LINK HC = DCH_				4000 VDC = X0		1 F = A010											
SuperCap C = SCSC				6000 VDC = Y0		2.5 F = A025											
SuperCap MC = SCMC				250 VAC = 0V		50 F = A500			Special features:					Lead length (untaped)			
SuperCap R = SCSR				275 VAC = 1V		100 F = B100			Standard = 00					3.5 ±0.5 = C9			
SuperCap MR = SCMR				300 VAC = 2V		110 F = B110			Version A1 = 1A					6 -2 = SD			
				400 VAC = 3V		600 F = B600			Version A1.1.1 = 1B					16 ±1 = P1			
				440 VAC = 4V		1200 F = C120			Version A1.2 = 1C					...			
				500 VAC = 5V									