

Metallized Polypropylene (PP) RFI-Capacitors Class Y2 PCM 10 mm and 15 mm

Special Features

- Reliable self-healing
- High degree of interference suppression due to good attenuation and low ESR
- According to RoHS 2011/65/EU

Typical Applications

Class Y2 RFI applications to meet EMC regulations

- Capacitors connected to the mains between phase or neutral and earthed casing
- By-passing of the basic or supplementary insulation, pulse peak voltage ≤ 5 kV

Construction

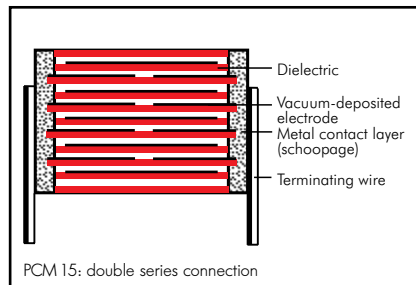
Dielectric:

Polypropylene (PP) 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: Black.

Electrical Data

Capacitance range:

1000 pF to 0.022 μ F

Rated voltage:

300 VAC

Continuous DC voltage* (general guide):

≤ 1000 V

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$

Operating temperature range:

-55°C to $+105^{\circ}\text{C}$

Climatic test category:

55/105/56/C in accordance with IEC

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

$\geq 15 \times 10^3$ M Ω

Measuring voltage: 100 V/1 min.

Test specifications:

In accordance with IEC 60384-14

Approvals:

Country	Authority	Specification	Symbol	Approval-No.
Germany	VDE	IEC 60384-14/3		40008997
USA/Canada	UL	UL 60384-14 CAN/CSA-E60384-14		E 134915

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

at f	$C \leq 0.022 \mu\text{F}$
1 kHz	$\leq 10 \times 10^{-4}$
100 kHz	$\leq 50 \times 10^{-4}$

Maximum pulse rise time:

100 V/ μ sec for pulses equal to a voltage amplitude with $\sqrt{2} \times 300$ VAC = 425 V according to IEC 60384-14

Test voltage:

2700 VDC, 2 sec.

Reliability:

Operational life > 300 000 hours

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

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:

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

Bump test:

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

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.

* If safety-approved EMI suppression capacitors are operated with a DC voltage being above the specified AC voltage rating the given approvals are no longer valid (IEC 60384-14).

Furthermore the permissible pulse rise time du/dt ($F_{\text{max.}}$) will be subject to a reduction according to

$$F_{\text{max.}} = F_r \times \sqrt{2} \times U_{\text{AC}} / U_{\text{DC}}$$

if the DC operating voltage U_{DC} is higher than $\sqrt{2} \times U_{\text{AC}}$

Continuation

General Data

Capacitance	W	H	L	300 VAC*	PCM**	Part number
1000 pF	4	9.5	13		10	MKY22W11003D00_
1500 "	4	9.5	13		10	MKY22W11503D00_
2200 "	4	9.5	13		10	MKY22W12203D00_
3300 "	5	11	13		10	MKY22W13303F00_
4700 "	5	11	13		10	MKY22W14703F00_
6800 "	6	12.5	13		10	MKY22W16803H00_
0.01 µF	5	11	18		15	MKY22W21004B00_
0.015 "	6	12.5	18		15	MKY22W21504C00_
0.022 "	7	14	18		15	MKY22W22204D00_

* f = 50/60 Hz

** PCM = Printed circuit module = pin spacing

Dims. in mm.

Part number completion:

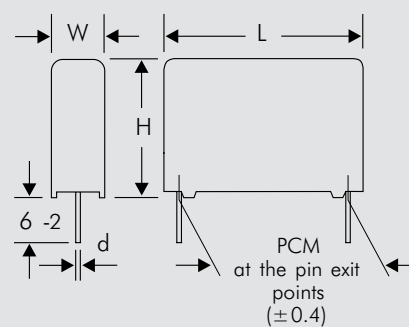
Tolerance: 20 % = M

10 % = K

Packing: bulk = S

Pin length: 6-2 = SD

Taped version see page 128.



d = 0.6 ø if PCM 10
d = 0.8 ø if PCM 15

Rights reserved to amend design data without prior notification.

Recommendation for Processing and Application of Through-Hole Capacitors

Soldering Process

Internal temperature of the capacitor must be kept as follows:

Polyester: preheating: $T_{\max.} \leq 125^{\circ}\text{C}$
soldering: $T_{\max.} \leq 135^{\circ}\text{C}$

Polypropylene: preheating: $T_{\max.} \leq 100^{\circ}\text{C}$
soldering: $T_{\max.} \leq 110^{\circ}\text{C}$

Single wave soldering

Soldering bath temperature: $T < 260^{\circ}\text{C}$

Dwell time: $t < 5\text{ sec}$

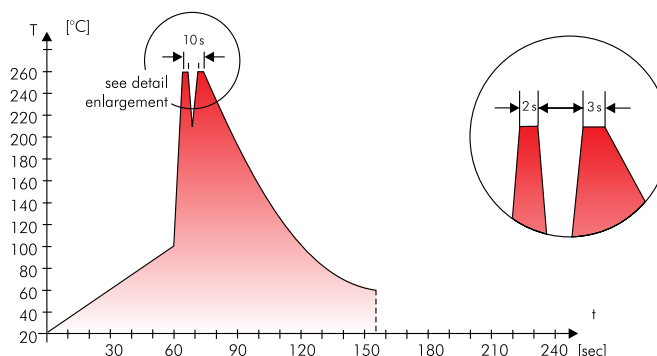
Double wave soldering

Soldering bath temperature: $T < 260^{\circ}\text{C}$

Dwell time: $\Sigma t < 5\text{ sec}$

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

Wave soldering



Typical temperature/time graph for double wave soldering

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
- Testing as per customer requirements

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
- PCB
- CFC
- Hydrocarbon chloride
- Chromium 6+
- PBB/PBDE
- Arsenic
- Cadmium
- Mercury
- 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 2011/65/EU 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 2011/65/EU

WIMA capacitors are lead free
in accordance with RoHS 2011/65/EU

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

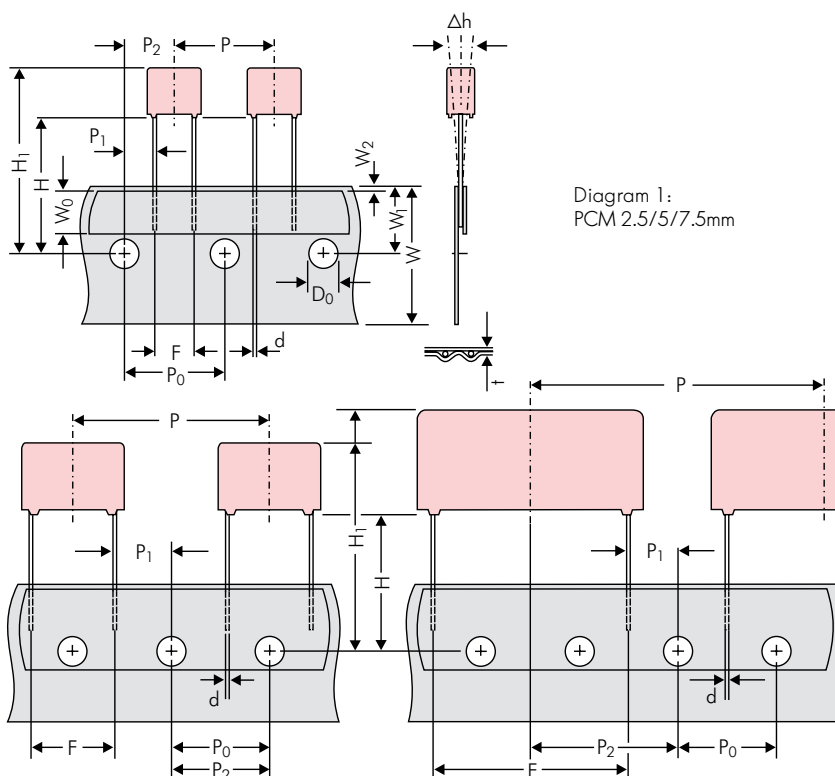


Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5*mm

*PCM 27.5 tapping possible with two feed holes between components

Designation	Symbol	Dimensions for Radial Taping						
		PCM 2.5 tapping	PCM 5 tapping	PCM 7.5 tapping	PCM 10 tapping*	PCM 15 tapping*	PCM 22.5 tapping	PCM 27.5 tapping
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 129)		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	52 ±2 B 58 ±2 or 66 ±2	REEL ø 500 max. ø 25 ±1	54 ±2 B 60 ±2 68 ±2 } depending on PCM and component dimensions
Unit		see details page 130.						

Dims in mm.

* Diameter of pins see General Data.

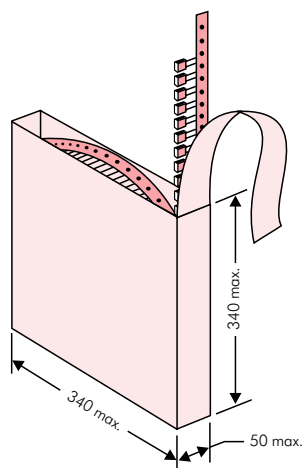
* PCM 10 and PCM 15 can be crimped to PCM 7.5.

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

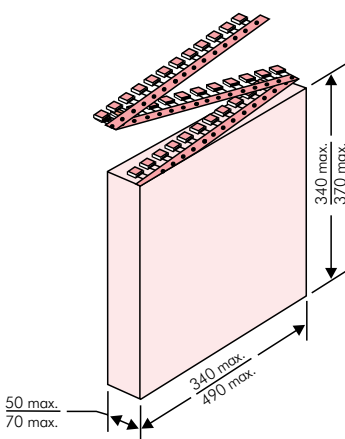
Please clarify customer-specific deviations with the manufacturer.

Types of Tape Packaging of Capacitors for Automatic Radial Insertion

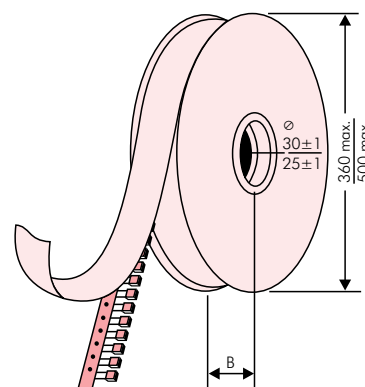
■ ROLL Packaging



■ AMMO Packaging



■ REEL Packaging



BAR CODE (Labelling)

Labelling of package units in plain text and with alphanumerical Bar Code

Scanner decoding of

- WIMA supplier number
- Customer's P/O number
- Customer's part number
- WIMA confirmation number
- WIMA part number
- Lot number
- Date code
- Quantity

In addition part description of

- article
- capacitance value
- rated voltage
- dimensions
- capacitance tolerance
- packing

as well as gross weight and customer's name are indicated in plain text.

WIMA Best Capacitors Made in Germany		Werk Unna	
Supplier-ID: 123456789	RoHS 2011/65/EC	Date Code: 08.10.10	
Purchase Order No. (P/O): Bestellung xyz		Quantity: 5.000	
Customer Part No.: KUNDETEILENUMMER		Customer No.: 0000100002	
WIMA Confirmation No.: 0001004063000100		Gross Weight [g]: 1870	
WIMA Part No.: MKS2C034701C00K89D			
Handling Unit:	MKS 2	QTY: 5.000	COO: DE
1000067326	MKS 2 0.47 µF 63 VDC 3.5x8.5x7.2 RM5		
	Standard 10% Loss - Standard Drähte 6-2		
	Vorlage Debitur Inland	Week 03/2011	

BARCODE „Code 39“



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

PCM	Size				bulk	pcs. per packing unit										
						ROLL		REEL				AMMO				
	W	H	L	Codes		S	H16.5	H18.5	ø 360	ø 500	340 × 340		490 × 370			
						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		600		—		400		—	
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
8	12	13	3I	2000			—		400		800		—		740	
15 mm	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
	10	18	19	FG	500			—		300		650		—		590
11	14	18	4M	1000			—		300		600		—		540	
22.5 mm	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

* TPS (Tray-Packing-System). Plate versions may have different packing units.
Samples and pre-production needs on request.

■ Moulded versions.

Rights reserved to amend design data without prior notification.

Packing Quantities for Capacitors with Radial Pins in PCM 27.5 mm to 52.5 mm

PCM	Size				bulk	ROLL		pcs. per packing unit				AMMO			
								REEL							
	W	H	L	Codes		H16.5	H18.5	ø 360	ø 500	340 × 340	490 × 370	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	FK	336*	–	–	–	–	–	–	–	–	–	–
	15	26	31.5	6F	384*	–	–	–	–	270	–	–	–	250	–
	15	26	33	FL	288*	–	–	–	–	–	–	–	–	–	–
	17	29	31.5	6G	176*	–	–	–	–	–	–	–	–	–	–
	17	34.5	31.5	6I	176*	–	–	–	–	–	–	–	–	–	–
	20	32	33	FM	216*	–	–	–	–	–	–	–	–	–	–
	20	39.5	31.5	6J	144*	–	–	–	–	–	–	–	–	–	–
37.5 mm	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*	–	–	–	–	–	–	–	–	–	–
	35	50	41.5	7J	35*	–	–	–	–	–	–	–	–	–	–
	40	55	41.5	7K	28*	–	–	–	–	–	–	–	–	–	–
48.5 mm	19	31	56	8D	50*	–	–	–	–	–	–	–	–	–	–
	23	34	56	8E	72*	–	–	–	–	–	–	–	–	–	–
	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.

* TPS (Tray-Packing-System). Plate versions may have different packing units.
Samples and pre-production needs on request.

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WIMA Part Number System

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: Version code (e.g. Snubber versions)
 Field 15: Capacitance tolerance
 Field 16: Packing
 Field 17 - 18: Pin 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:			
SMD-PET = SMDT				50 VDC = B0		22 pF = 0022				4.8x3.3x3 Size 1812 = KA				±20% = M			
SMD-PPS = SMDI				63 VDC = C0		47 pF = 0047				4.8x3.3x4 Size 1812 = KB				±10% = K			
FKP 02 = FKP0				100 VDC = D0		100 pF = 0100				5.7x5.1x3.5 Size 2220 = QA				±5% = J			
MKS 02 = MKS0				250 VDC = F0		150 pF = 0150				5.7x5.1x4.5 Size 2220 = QB				±2.5% = H			
FKS 2 = FKS2				400 VDC = G0		220 pF = 0220				7.2x6.1x3 Size 2824 = TA				±1% = E			
FKP 2 = FKP2				450 VDC = H0		330 pF = 0330				7.2x6.1x5 Size 2824 = TB				...			
MKS 2 = MKS2				600 VDC = I0		470 pF = 0470				10.2x7.6x5 Size 4030 = VA				Packing: AMMO H16.5 340x340 = A AMMO H16.5 490x370 = B AMMO H18.5 340x340 = C AMMO H18.5 490x370 = D REEL H16.5 360 = F REEL H16.5 500 = H REEL H18.5 360 = I REEL H18.5 500 = J ROLL H16.5 = N ROLL H18.5 = O BLISTER W12 180 = P BLISTER W12 330 = Q BLISTER W16 330 = R BLISTER W24 330 = T Bulk/TPS Standard = S ...			
MKP 2 = MKP2				630 VDC = J0		680 pF = 0680				12.7x10.2x6 Size 5040 = XA							
FKS 3 = FKS3				700 VDC = K0		1000 pF = 1100				15.3x13.7x7 Size 6054 = YA							
FKP 3 = FKP3				800 VDC = L0		1500 pF = 1150				2.5x7x4.6 PCM 2.5 = 0B							
MKS 4 = MKS4				850 VDC = M0		2200 pF = 1220				3x7.5x4.6 PCM 2.5 = 0C							
MKP 4 = MKP4				900 VDC = N0		3300 pF = 1330				2.5x6.5x7.2 PCM 5 = 1A							
MKP 10 = MKP1				1000 VDC = O1		4700 pF = 1470				3x7.5x7.2 PCM 5 = 1B							
FKP 4 = FKP4				1100 VDC = P0		6800 pF = 1680				2.5x7x10 PCM 7.5 = 2A							
FKP 1 = FKP1				1200 VDC = Q0		0.01 μF = 2100				3x8.5x10 PCM 7.5 = 2B							
MKP-X2 = MKX2				1250 VDC = R0		0.022 μF = 2220				3x9x13 PCM 10 = 3A							
MKP-X2 R = MKXR				1500 VDC = S0		0.047 μF = 2470				4x9x13 PCM 10 = 3C							
MKP-Y2 = MKY2				1600 VDC = T0		0.1 μF = 3100				5x11x18 PCM 15 = 4B							
MP 3-X2 = MPX2				2000 VDC = U0		0.22 μF = 3220				6x12.5x18 PCM 15 = 4C							
MP 3-X1 = MPX1				2500 VDC = V0		0.47 μF = 3470				5x14x26.5 PCM 22.5 = 5A							
MP 3-Y2 = MPY2				3000 VDC = W0		1 μF = 4100				6x15x26.5 PCM 22.5 = 5B							
MP 3R-Y2 = MPRY				4000 VDC = X0		2.2 μF = 4220				9x19x31.5 PCM 27.5 = 6A							
Snubber MKP = SNMP				6000 VDC = Y0		4.7 μF = 4470				11x21x31.5 PCM 27.5 = 6B							
Snubber FKP = SNFP				250 VAC = 0W		10 μF = 5100				9x19x41.5 PCM 37.5 = 7A							
GTO MKP = GTOM				275 VAC = 1W		22 μF = 5220				11x22x41.5 PCM 37.5 = 7B							
DC-LINK MKP 3 = DCP3				300 VAC = 2W		47 μF = 5470				94x49x182 DCH_ = H0							
DC-LINK MKP 4 = DCP4				400 VAC = 3W		100 μF = 6100				94x77x182 DCH_ = H1							
DC-LINK MKP 4S = DCPS				440 VAC = 4W		220 μF = 6220				...							
DC-LINK MKP 5 = DCP5				500 VAC = 5W		1000 μF = 7100				...							
DC-LINK MKP 6 = DCP6							Version code:							
DC-LINK HC = DCH_										Standard = 00							
DC-LINK HY = DCHY										Version A1 = 1A							
										Version A1.1.1 = 1B							
										Version A2 = 2A							
										...							
										Pin length (untaped)							
										3.5 ±0.5 = C9							
										6 -2 = SD							
										16 ±1 = P1							
										...							