

**Metallized Paper (MP) RFI-Capacitors Class X1  
in PCM 10 mm to 15 mm. Capacitances from 1000 pF to 0.033 μF.  
Rated Voltages from 300 VAC to 500 VAC.**

### Special Features

- Particularly high reliability against active and passive flammability
- Excellent self-healing as well as high voltage strength
- High degree of interference suppression due to good attenuation and low ESR
- For temperatures up to +110° C
- According to RoHS 2011/65/EU

### Typical Applications

**Class X1 RFI applications to meet EMC regulations**

- Capacitors connected to the mains between phase and neutral or phase and phase conductors
- High peak voltage applications, pulse peak voltage ≤ 4 kV

### Construction

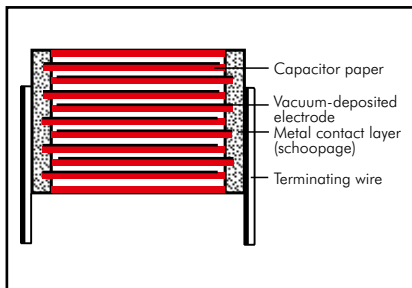
**Dielectric:**

Paper, epoxy resin impregnated

**Capacitor electrodes:**

Vacuum-deposited

**Internal construction:**



**Encapsulation:**

Self-extinguishing epoxy resin, UL 94 V-0, metal foil

**Terminations:**

Tinned wire.

**Marking:**

Marking: Black on Silver.

### Electrical Data

**Capacitance range:**

1000 pF to 0.033 μF (E12-values on request)

**Rated voltages:**

300 VAC, 440 VAC, 500 VAC

**Continuous DC voltage\*** (general guide):

≤ 730 V for 300 VAC

≤ 850 V for 440 VAC and 500 VAC

**Capacitance tolerances:** ±20%

**Operating temperature range:**

-40° C to +110° C

**Climatic test category:**

40/110/56/C in accordance with IEC

**Insulation resistance** at +20° C:

≥ 12 x 10<sup>3</sup> MΩ

Measuring voltage:

100 V/1 min. for 300 VAC and 440 VAC

500 V/1 min. for 500 VAC

**Dissipation factors:**

tan δ ≤ 13 x 10<sup>-3</sup> at 1 kHz and +20° C

**Approvals:**

Authority	Specification	Symbol	Approval-No
UL/Demko	EN 60384-14		ENEC-02830 (300 VAC) ENEC-02831 (440/500 VAC)
UL	UL 60384-14 CAN/CSA-E60384-14		E 100438

**Test specifications:**

In accordance with IEC 60384-14

**Maximum pulse rise time:**

Capacitance pF/μF	Pulse rise time V/μsec max. operation
1000 ... 4700	2500
6800 ... 0.022	1750
0.033	750

for pulses equal to a voltage amplitude with  $\sqrt{2} \times 300 \text{ VAC} = 425 \text{ V}$ ,  
with  $\sqrt{2} \times 440 \text{ VAC} = 623 \text{ V}$ ,  
with  $\sqrt{2} \times 500 \text{ VAC} = 707 \text{ V}$   
according to IEC 60384-14

**Test voltage:** 2300 VDC, 2 sec.

**Reliability:**

Operational life > 300 000 hours

Failure rate < 1 fit (0.5 x U<sub>r</sub> and 40° C)

### Mounting Recommendation

To minimize or avoid shock and/or vibration stresses to terminating wires and solder connections we recommend to fix voluminous resin-potted MP capacitors as from e.g. PCM 22.5 mm in an appropriate way since for constructional reasons they do not sit tight on the board.

\* 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<sub>max.</sub>) will be subject to a reduction according to

$$F_{\text{max.}} = F_r \times \sqrt{2} \times \text{UAC} / \text{UDC}$$

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

### 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	300 VAC*					440 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
1000 pF	4	8.5	13.5	10	MPX12W1100FA00_					
1500 "	4	8.5	13.5	10	MPX12W1150FA00_					
2200 "	4	8.5	13.5	10	MPX12W1220FA00_					
3300 "	4	8.5	13.5	10	MPX12W1330FA00_					
4700 "	5	10	13.5	10	MPX12W1470FB00_					
6800 "	5	13	19	15	MPX12W1680FC00_	5	13	19	15	MPX14W1680FC00_
0.01 μF	5	13	19	15	MPX12W2100FC00_	5	13	19	15	MPX14W2100FC00_
0.015 "	6	14	19	15	MPX12W2150FD00_	6	14	19	15	MPX14W2150FD00_
0.022 "	7	15	19	15	MPX12W2220FE00_	7	15	19	15	MPX14W2220FE00_
0.033 "	8	17	19	15	MPX12W2330FF00_	10	18	19	15	MPX14W2330FG00_

Capacitance	500 VAC*				
	W	H	L	PCM**	Part number
6800 pF	5	13	19	15	MPX15W1680FC00_
0.01 μF	5	13	19	15	MPX15W2100FC00_
0.015 "	6	14	19	15	MPX15W2150FD00_
0.022 "	7	15	19	15	MPX15W2220FE00_
0.033 "	10	18	19	15	MPX15W2330FG00_

Part number completion:  
 Tolerance: 20 % = M  
 Packing: bulk = S  
 Pin length: 6-2 = SD  
 Taped version see page 161.

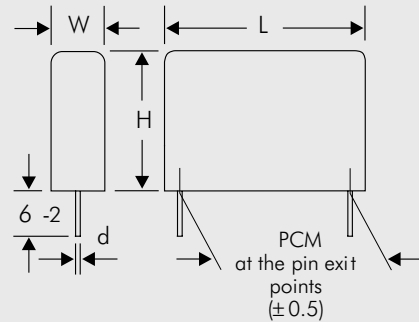
\* f = 50/60 Hz

\*\* PCM = Printed circuit module = pin spacing

Upon request with long pins 35-2 mm max.

Dims in mm.

d = 0.6 φ if PCM10  
 d = 0.8 φ if PCM ≥ 15



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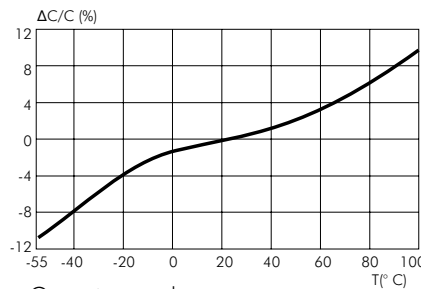
## Typical Graphs of the Capacitor Paper Dielectric

valid for:

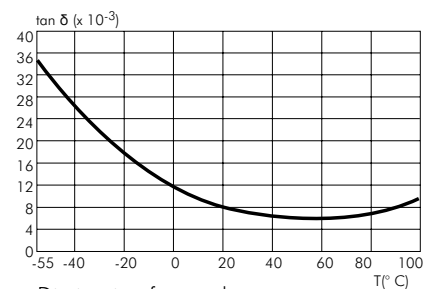
MP 3-X2

MP 3-X1

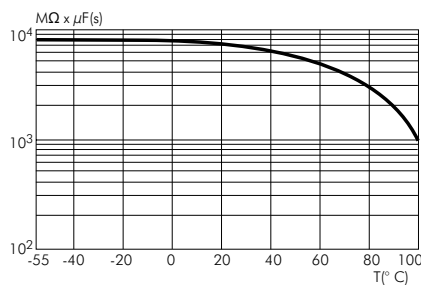
MP 3-Y2 / 3R-Y2



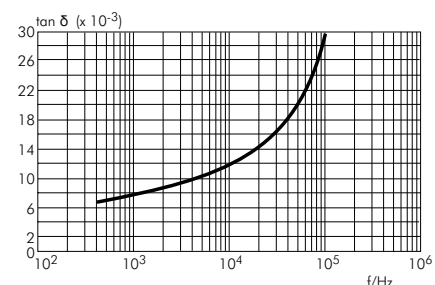
Capacitance change versus temperature (f=1 kHz) (general guide)



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



Insulation resistance change versus temperature (general guide)



Dissipation factor change versus frequency (general guide).

## Recommendation for Processing and Application of Through-Hole Capacitors

### Soldering Process

Internal temperature of the capacitor must be kept as follows:

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

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

### Single wave soldering

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

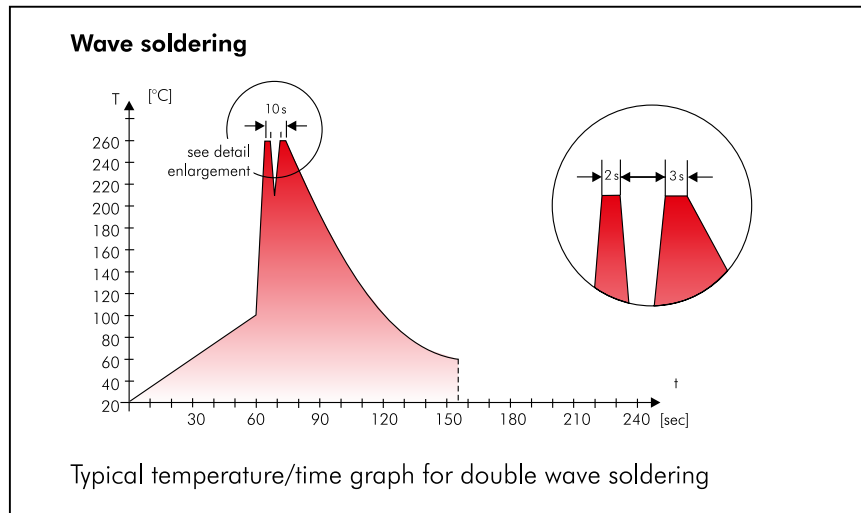
Dwell time:  $t < 5 \text{ sec}$

### Double wave soldering

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

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.



## WIMA Quality and Environmental Philosophy

### ISO 9001:2015 Certification

ISO 9001:2015 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2015 of our factories by the infaz (Institut für Auditierung und Zertifizierung) 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 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:

- adhesive tapes made of plastic
- metal clips

### RoHS Compliance

According to the RoHS Directive 2011/65/EU as amended from time to time 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

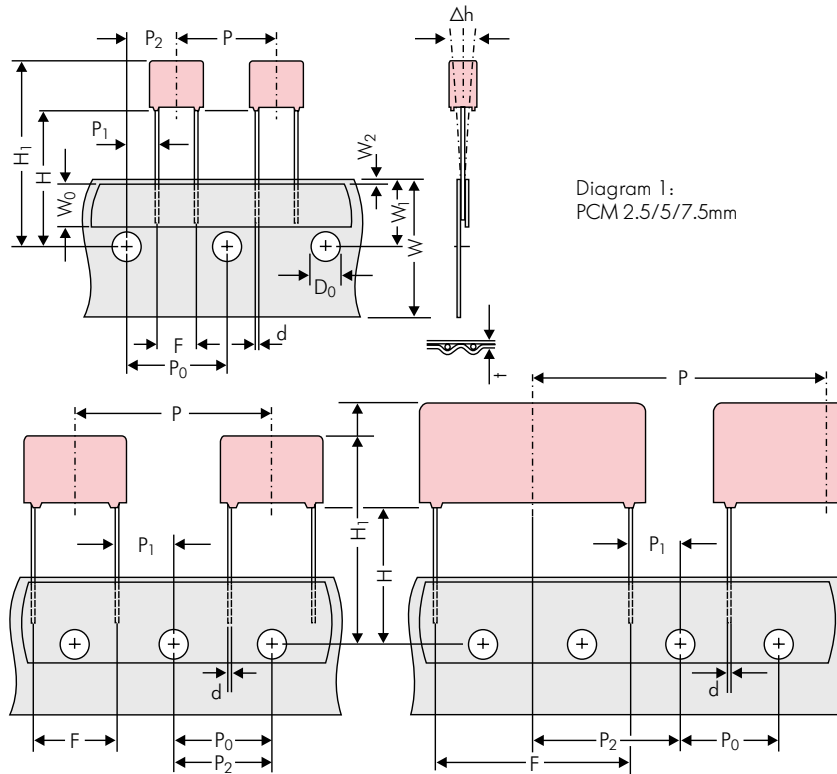


Diagram 1:  
PCM 2.5/5/7.5mm

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 <sub>0</sub>	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 <sub>1</sub>	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 <sub>2</sub>	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 <sub>0</sub>	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 <sub>0</sub>	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 <sub>1</sub>	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 <sub>2</sub>	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 <sub>1</sub>	H+H <sub>component</sub> < H <sub>1</sub> 32.25 max.	H+H <sub>component</sub> < H <sub>1</sub> 32.25 max.	H+H <sub>component</sub> < H <sub>1</sub> 24.5 to 31.5	H+H <sub>component</sub> < H <sub>1</sub> 25.0 to 31.5	H+H <sub>component</sub> < H <sub>1</sub> 26.0 to 37.0	H+H <sub>component</sub> < H <sub>1</sub> 30.0 to 43.0	H+H <sub>component</sub> < H <sub>1</sub> 35.0 to 45.0
Pin spacing at upper edge of carrier tape	F	2.5 ±0.5	5.0 <sup>+0.8</sup> <sub>-0.2</sub>	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 <sup>+0.06</sup> <sub>-0.05</sub>	0.5 ±0.05 or 0.6 <sup>+0.06</sup> <sub>-0.05</sub>	0.8 <sup>+0.08</sup> <sub>-0.05</sub>	0.8 <sup>+0.08</sup> <sub>-0.05</sub>	0.8 <sup>+0.08</sup> <sub>-0.05</sub>
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	0.6 ±0.2	0.6 ±0.2	0.6 ±0.2	0.6 ±0.2	0.6 ±0.2	0.6 ±0.2	0.6 ±0.2
Package (see also page 162)	ROLL/AMMO			AMMO				
	REEL	φ 360 max. φ 30 ±1	B 52 ±2 58 ±2 } depending on comp. dimensions	REEL	φ 360 max. φ 30 ±1	52 ±2 58 ±2 or 66 ±2	REEL	φ 500 max. φ 25 ±1
Unit	see details page 163.							

Dims in mm.

\* Diameter of pins see General Data.

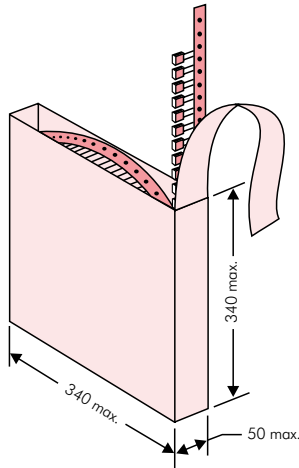
\* PCM 10 and PCM 15 can be crimped to PCM 7.5.

Position of components according to PCM 7.5 (sketch 11). P<sub>0</sub> = 12.7 or 15.0 is possible

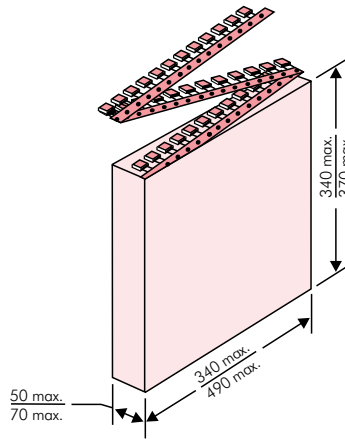
Please clarify customer-specific deviations with the manufacturer.

## Types of Tape Packaging of Capacitors for Automatic Radial Insertion

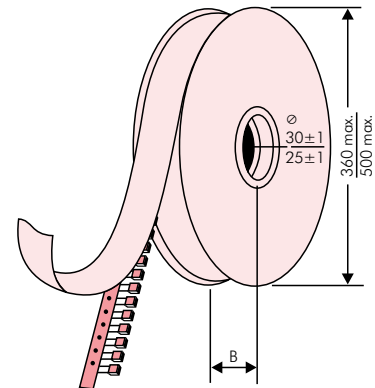
### ■ ROLL Packaging



### ■ AMMO Packaging



### ■ REEL Packaging



## BAR CODE (Labelling)

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

- WIMA supplier number
- Date code
- Customer's P/O number
- P/O line
- Customer's part number
- WIMA part number
- Quantity
- WIMA confirmation number
- Country of origin
- Customer name
- Handling unit number
- Week of delivery.

In addition part description of

- article
- capacitance value
- rated voltage
- dimensions
- technical note
- capacitance tolerance
- packing
- connecting information

BARCODE PDF417  
BARCODE 2D Datamatrix

<b>WIMA</b> Best Capacitors Made in Germany Werk Aurich	
Supplier - ID: LIEF.NR.	Date Code: 20210419
Purchase Order No. (P/O): Bestellung xyz	P/O line: 100
Customer Part No.: KUNDENTEILENUMMER	
WIMA Part No.: MKP1F041006B00KSSD	Quantity: 459
WIMA Confirmation No.: 0001105072000100	RoHS 2011/65/EU
	COO: DE
Customer No.: 0000100002	
Gross Weight [g]: 4557	
WIMA - MKP 10	WIMA Part No.: MKP1F041006B00KSSD
MKP 10 1.0 µF 250 VDC 11x21x31.5 RM27.5	
Standard 10% Lose - Standard Drähte 6-2	
Vorlage Debitor Inland	
	0001105072000100
1002021443	QTY: 459 Week 19/2021

# 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 x 340	490 x 370		
					N	O	F	I	H	J	A	C	B	D
<b>2.5 mm</b>	2.5	7	4.6	<b>0B</b>	5000		2200		2500			2800		
	3	7.5	4.6	<b>0C</b>	5000		2000		2300			2300		
	3.8	8.5	4.6	<b>0D</b>	5000		1500		1800			1800		
	4.6	9	4.6	<b>0E</b>	5000		1200		1500			1500		
	5.5	10	4.6	<b>0F</b>	5000		900		1200			1200		
<b>5 mm</b>	2.5	6.5	7.2	<b>1A</b>	5000		2200		2500			2800		
	3	7.5	7.2	<b>1B</b>	5000		2000		2300			2300		
	3.5	8.5	7.2	<b>1C</b>	5000		1600		2000			2000		
	4.5	6	7.2	<b>1D</b>	6000		1300		1500			1500		
	4.5	9.5	7.2	<b>1E</b>	4000		1300		1500			1500		
	5	10	7.2	<b>1F</b>	3500		1100		1400			1400		
	5.5	7	7.2	<b>1G</b>	4000		1000		1200			1200		
	5.5	11.5	7.2	<b>1H</b>	2500		1000		1200			1200		
	6.5	8	7.2	<b>1I</b>	2500		800		1000			1000		
	7.2	8.5	7.2	<b>1J</b>	2500		700		1000			1000		
	7.2	13	7.2	<b>1K</b>	2000		700		950			1000		
	8.5	10	7.2	<b>1L</b>	2000		600		800			800		
8.5	14	7.2	<b>1M</b>	1500		600		800			800			
11	16	7.2	<b>1N</b>	1000		500		600			640			
<b>7.5 mm</b>	2.5	7	10	<b>2A</b>	5000				2500		4400	2500		
	3	8.5	10	<b>2B</b>	5000				2200		4300	2300		4150
	4	9	10	<b>2C</b>	4000				1700		3200	1700		3000
	4.5	9.5	10.3	<b>2D</b>	3500				1500		2900	1400		2700
	5	10.5	10.3	<b>2E</b>	3000				1300		2500	1300		
	5.7	12.5	10.3	<b>2F</b>	2000				1000		2200	1100		
	7.2	12.5	10.3	<b>2G</b>	1500				900		1800	1000		
<b>10 mm</b>	3	9	13	<b>3A</b>	3000				1100		2200			1900
	4	8.5	13.5	<b>FA</b>	3000				900		1600			1450
	4	9	13	<b>3C</b>	3000				900		1600			1450
	4	9.5	13	<b>3D</b>	3000				900		1600			1400
	5	10	13.5	<b>FB</b>	2000				700		1300			1200
	5	11	13	<b>3F</b>	3000				700		1300			1100
	6	12	13	<b>3G</b>	2400				550		1100			1000
	6	12.5	13	<b>3H</b>	2400				550		1100			1000
8	12	13	<b>3I</b>	2000				400		800			740	
<b>15 mm</b>	5	11	18	<b>4B</b>	2400				600		1200			1150
	5	13	19	<b>FC</b>	1000				600		1200			1200
	6	12.5	18	<b>4C</b>	2000				500		1000			1000
	6	14	19	<b>FD</b>	1000				500		1000			1000
	7	14	18	<b>4D</b>	1600				450		900			850
	7	15	19	<b>FE</b>	1000				450		900			850
	8	15	18	<b>4F</b>	1200				400		800			740
	8	17	19	<b>FF</b>	500				400		800			740
	9	14	18	<b>4H</b>	1200				350		700			650
	9	16	18	<b>4J</b>	900				350		700			650
<b>22.5 mm</b>	5	14	26.5	<b>5A</b>	1200						800			770
	6	15	26.5	<b>5B</b>	1000						700			640
	7	16.5	26.5	<b>5D</b>	760						600			550
	8	20	28	<b>FH</b>	500						500			480
	8.5	18.5	26.5	<b>5F</b>	500						480			450
	10	22	28	<b>FI</b>	570*						420			380
	10.5	19	26.5	<b>5G</b>	594*						400			360
	10.5	20.5	26.5	<b>5H</b>	594*						400			360
	11	21	26.5	<b>5I</b>	561*						380			350
12	24	28	<b>FJ</b>	480*						350			310	

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

■ Moulded versions.

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

PCM	Size				bulk	pcs. per packing unit												
						ROLL		REEL				AMMO						
	W	H	L	Codes		S	N	O	ø 360		ø 500		340 x 340		490 x 370			
								H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	
								F	I	H	J	A	C	B	D			
<b>27.5 mm</b>	9	19	31.5	<b>6A</b>	567*	-	-	-	-	460/340*		-	-	-	-	-	-	
	11	21	31.5	<b>6B</b>	459*	-	-	-	-	380/280*		-	-	-	-	-	-	
	13	24	31.5	<b>6D</b>	378*	-	-	-	-	300		-	-	-	-	-	-	
	13	25	33	<b>FK</b>	405*	-	-	-	-	-		-	-	-	-	-	-	
	15	26	31.5	<b>6F</b>	324*	-	-	-	-	270		-	-	-	-	-	-	
	15	26	33	<b>FL</b>	324*	-	-	-	-	-		-	-	-	-	-	-	
	17	29	31.5	<b>6G</b>	198*	-	-	-	-	-		-	-	-	-	-	-	
	17	34.5	31.5	<b>6I</b>	198*	-	-	-	-	-		-	-	-	-	-	-	
	20	32	33	<b>FM</b>	162*	-	-	-	-	-		-	-	-	-	-	-	-
	20	39.5	31.5	<b>6J</b>	162*	-	-	-	-	-		-	-	-	-	-	-	-
<b>37.5 mm</b>	9	19	41.5	<b>7A</b>	441*	-	-	-	-	-	-	-	-	-	-	-	-	
	11	22	41.5	<b>7B</b>	357*	-	-	-	-	-	-	-	-	-	-	-	-	
	13	24	41.5	<b>7C</b>	294*	-	-	-	-	-	-	-	-	-	-	-	-	
	15	26	41.5	<b>7D</b>	252*	-	-	-	-	-	-	-	-	-	-	-	-	-
	17	29	41.5	<b>7E</b>	154*	-	-	-	-	-	-	-	-	-	-	-	-	-
	19	32	41.5	<b>7F</b>	140*	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	39.5	41.5	<b>7G</b>	126*	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	45.5	41.5	<b>7H</b>	112*	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	38	41.5	<b>7L</b>	84*	-	-	-	-	-	-	-	-	-	-	-	-	-
	31	46	41.5	<b>7I</b>	84*	-	-	-	-	-	-	-	-	-	-	-	-	-
	35	50	41.5	<b>7J</b>	35*	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	55	41.5	<b>7K</b>	28*	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>48.5 mm</b>	19	31	56	<b>8D</b>	120*	-	-	-	-	-	-	-	-	-	-	-	-	
	23	34	56	<b>8E</b>	80*	-	-	-	-	-	-	-	-	-	-	-	-	
	27	37.5	56	<b>8H</b>	84*	-	-	-	-	-	-	-	-	-	-	-	-	
	33	48	56	<b>8J</b>	25*	-	-	-	-	-	-	-	-	-	-	-	-	-
	37	54	56	<b>8L</b>	25*	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>52.5 mm</b>	25	45	57	<b>9D</b>	70*	-	-	-	-	-	-	-	-	-	-	-	-	
	30	45	57	<b>9E</b>	60*	-	-	-	-	-	-	-	-	-	-	-	-	
	35	50	57	<b>9F</b>	25*	-	-	-	-	-	-	-	-	-	-	-	-	
	45	55	57	<b>9H</b>	20*	-	-	-	-	-	-	-	-	-	-	-	-	-
	45	65	57	<b>9J</b>	20*	-	-	-	-	-	-	-	-	-	-	-	-	-

\* for 2-inch transport pitches.

\* 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.

Updated data on [www.wima.com](http://www.wima.com)



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
<b>M</b>	<b>K</b>	<b>S</b>	<b>2</b>	<b>C</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>A</b>	<b>0</b>	<b>0</b>	<b>M</b>	<b>S</b>	<b>S</b>	<b>D</b>
MKS 2				63 VDC		0.01 µF			2.5x6.5x7.2		-		20%	bulk	6 -2		

<p><b>Type description:</b></p> <p>SMD-PET = SMDT                  SMD-PEN = SMDN                  SMD-PPS = SMDI                  FKP 02 = FKPO                  MKS 02 = MKS0                  FKS 2 = FKS2                  FKP 2 = FKP2                  FKS 3 = FKS3                  FKP 3 = FKP 3                  MKS 2 = MKS2                  MKP 2 = MKP2                  MKS 4 = MKS4                  MKP 4 = MKP4                  MKP 10 = MKP1                  FKP 4 = FKP4                  FKP 1 = FKP1                  MKP-X2 = MKX2                  MKP-X1 R = MKX1                  MKP-Y2 = MKY2                  MP 3-X2 = MPX2                  MP 3-X1 = MPX1                  MP 3-Y2 = MPY2                  MP 3R-Y2 = MPRY                  MKP 4F = MKPF                  Snubber MKP = SNMP                  Snubber FKP = SNFP                  GTO MKP = GTOM                  DC-LINK MKP 4 = DCP4                  DC-LINK MKP 6 = DCP6                  DC-LINK HC = DCHC</p>	<p><b>Rated voltage:</b></p> <p>50 VDC = B0                  63 VDC = C0                  100 VDC = D0                  250 VDC = F0                  400 VDC = G0                  450 VDC = H0                  520 VDC = H2                  600 VDC = I0                  630 VDC = J0                  700 VDC = K0                  800 VDC = L0                  850 VDC = M0                  900 VDC = N0                  1000 VDC = O1                  1100 VDC = P0                  1200 VDC = Q0                  1250 VDC = R0                  1500 VDC = S0                  1600 VDC = T0                  1700 VDC = TA                  2000 VDC = U0                  2500 VDC = V0                  3000 VDC = W0                  4000 VDC = X0                  6000 VDC = Y0                  250 VAC = 0W                  275 VAC = 1W                  300 VAC = 2W                  305 VAC = AW                  350 VAC = BW                  440 VAC = 4W                  500 VAC = 5W                  ...</p>	<p><b>Capacitance:</b></p> <p>22 pF = 0022                  47 pF = 0047                  100 pF = 0100                  150 pF = 0150                  220 pF = 0220                  330 pF = 0330                  470 pF = 0470                  680 pF = 0680                  1000 pF = 1100                  1500 pF = 1150                  2200 pF = 1220                  3300 pF = 1330                  4700 pF = 1470                  6800 pF = 1680                  0.01 µF = 2100                  0.022 µF = 2220                  0.047 µF = 2470                  0.1 µF = 3100                  0.22 µF = 3220                  0.47 µF = 3470                  1 µF = 4100                  2.2 µF = 4220                  4.7 µF = 4470                  10 µF = 5100                  22 µF = 5220                  47 µF = 5470                  100 µF = 6100                  220 µF = 6220                  1000 µF = 7100                  1500 µF = 7150                  ...</p>	<p><b>Size:</b></p> <p>4.8x3.3x3 Size 1812 = KA                  4.8x3.3x4 Size 1812 = KB                  5.7x5.1x3.5 Size 2220 = QA                  5.7x5.1x4.5 Size 2220 = QB                  7.2x6.1x3 Size 2824 = TA                  7.2x6.1x5 Size 2824 = TB                  10.2x7.6x5 Size 4030 = VA                  12.7x10.2x6 Size 5040 = XA                  15.3x13.7x7 Size 6054 = YA                  2.5x7x4.6 PCM 2.5 = 0B                  3x7.5x4.6 PCM 2.5 = 0C                  2.5x6.5x7.2 PCM 5 = 1A                  3x7.5x7.2 PCM 5 = 1B                  2.5x7x10 PCM 7.5 = 2A                  3x8.5x10 PCM 7.5 = 2B                  3x9x13 PCM 10 = 3A                  4x9x13 PCM 10 = 3C                  5x11x18 PCM 15 = 4B                  6x12.5x18 PCM 15 = 4C                  5x14x26.5 PCM 22.5 = 5A                  6x15x26.5 PCM 22.5 = 5B                  9x19x31.5 PCM 27.5 = 6A                  11x21x31.5 PCM 27.5 = 6B                  9x19x41.5 PCM 37.5 = 7A                  11x22x41.5 PCM 37.5 = 7B                  19x31x56 PCM 48.5 = 8D                  25x45x57 PCM 52.5 = 9D                  ...</p>	<p><b>Tolerance:</b></p> <p>±20% = M                  ±10% = K                  ±5% = J                  ±2.5% = H                  ±1% = E                  ...</p> <p><b>Packing:</b></p> <p>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                  ...</p>	
				<p><b>Version code:</b></p> <p>Standard = 00                  Version A1 = 1A                  Version A1.1.1 = 1B                  Version A2 = 2A                  ...</p>	<p><b>Pin length (untaped)</b></p> <p>3.5 ±0.5 = C9                  6 -2 = SD                  16 ±1 = P1                  ...</p> <p><b>Pin length (taped)</b></p> <p>none = 00</p>

The data on this page is not complete and serves only to explain the part number system. Part number information is listed on the pages of the respective WIMA range.