

Polypropylene (PP) Film/Foil Capacitors for Pulse Applications in PCM 5 mm.  
Capacitances from 33 pF to 0.033 mF. Rated Voltages from 63 VDC to 1000 VDC.

## Special Features

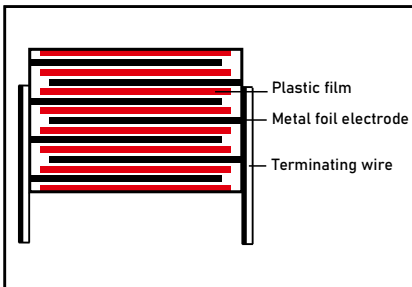
- ~ Pulse duty construction
- ~ Close tolerances up to  $\pm 2.5\%$  ( $\pm 1\%$  on request)
- ~ Very low dissipation factor
- ~ Negative capacitance change versus temperature
- ~ Very low dielectric absorption
- ~ According to RoHS 2011/65/EU

## Typical Applications

- For high frequency applications e.g.
- ~ Sample and hold
  - ~ Timing
  - ~ LC-Filtering
  - ~ Oscillating circuits
  - ~ Audio equipment

## Construction

Dielectric:  
Polypropylene (PP) film  
Capacitor electrodes:  
Metal foil  
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: 33 pF to 0.033 mF (E12-values on request)  
Rated voltages: 63 VDC, 100 VDC, 250 VDC, 400 VDC, 630 VDC, 800 VDC, 1000 VDC  
Capacitance tolerances:  $\pm 20\%$ ,  $\pm 10\%$ ,  $\pm 5\%$ ,  $\pm 2.5\%$  ( $\pm 2\%$ ,  $\pm 1.5\%$  or  $\pm 1\%$  available as precision capacitors subject to special enquiry)  
Operating temperature range:  $-55^\circ\text{C}$  to  $+100^\circ\text{C}$   
Test specifications: In accordance with IEC 60384-13  
Climatic test category: 55/100/56 in accordance with IEC  
Insulation resistance at  $+20^\circ\text{C}$ :  $\geq 3 \times 10^9 \text{ M}\Omega$   
Measuring voltage:  
 $U_r = 63 \text{ V}$ :  $U_{\text{test}} = 50 \text{ V/1 min.}$   
 $U_r \geq 100 \text{ V}$ :  $U_{\text{test}} = 100 \text{ V/1 min.}$   
Dissipation factors at  $+20^\circ\text{C}$   $\text{d}\tan$

at f	$C \leq 1000 \text{ pF}$	$1000 \text{ pF} < C \leq 4700 \text{ pF}$	$C > 4700 \text{ pF}$
1 kHz	$\leq 5 \times 10^{-4}$	$\leq 5 \times 10^{-4}$	$\leq 5 \times 10^{-4}$
10 kHz	$\leq 6 \times 10^{-4}$	$\leq 6 \times 10^{-4}$	$\leq 6 \times 10^{-4}$
100 kHz	$\leq 8 \times 10^{-4}$	$\leq 8 \times 10^{-4}$	-
1 MHz	$\leq 10 \times 10^{-4}$	-	-

## 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/s<sup>2</sup> 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.

## Continuation

### General Data

Capacitance	63 VDC/40 VAC*					100 VDC/63 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
100 pF	4.5	6	7.2	5	FKP2C001001D00	4.5	6	7.2	5	FKP2D001001D00
150 „	4.5	6	7.2	5	FKP2C001501D00	4.5	6	7.2	5	FKP2D001501D00
220 „	4.5	6	7.2	5	FKP2C002201D00	4.5	6	7.2	5	FKP2D002201D00
330 „	4.5	6	7.2	5	FKP2C003301D00	4.5	6	7.2	5	FKP2D003301D00
470 „	4.5	6	7.2	5	FKP2C004701D00	4.5	6	7.2	5	FKP2D004701D00
680 „	4.5	6	7.2	5	FKP2C006801D00	4.5	6	7.2	5	FKP2D006801D00
1000 pF	4.5	6	7.2	5	FKP2C011001D00	4.5	6	7.2	5	FKP2D011001D00
1500 „	4.5	6	7.2	5	FKP2C011501D00	4.5	6	7.2	5	FKP2D011501D00
2200 „	4.5	6	7.2	5	FKP2C012201D00	4.5	6	7.2	5	FKP2D012201D00
3300 „	4.5	6	7.2	5	FKP2C013301D00	5.5	7	7.2	5	FKP2D013301G00
4700 „	4.5	6	7.2	5	FKP2C014701D00	5.5	7	7.2	5	FKP2D014701G00
6800 „	4.5	6	7.2	5	FKP2C016801D00	5.5	7	7.2	5	FKP2D016801G00
0.01 mF	5.5	7	7.2	5	FKP2C021001G00	6.5	8	7.2	5	FKP2D021001I00
0.015 „	6.5	8	7.2	5	FKP2C021501I00	7.2	8.5	7.2	5	FKP2D021501J00
0.022 „	7.2	8.5	7.2	5	FKP2C022201J00	8.5	10	7.2	5	FKP2D022201L00
0.033 „	8.5	10	7.2	5	FKP2C023301L00					

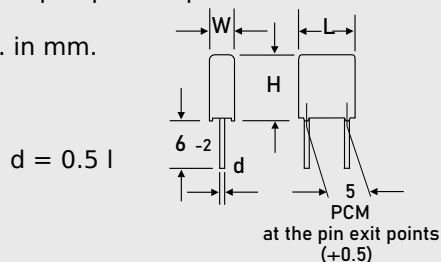
Capacitance	250 VDC/160 VAC*					400 VDC/220 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
100 pF	4.5	6	7.2	5	FKP2F001001D00	4.5	6	7.2	5	FKP2G001001D00
150 „	4.5	6	7.2	5	FKP2F001501D00	4.5	6	7.2	5	FKP2G001501D00
220 „	4.5	6	7.2	5	FKP2F002201D00	4.5	6	7.2	5	FKP2G002201D00
330 „	4.5	6	7.2	5	FKP2F003301D00	4.5	6	7.2	5	FKP2G003301D00
470 „	4.5	6	7.2	5	FKP2F004701D00	4.5	6	7.2	5	FKP2G004701D00
680 „	4.5	6	7.2	5	FKP2F006801D00	4.5	6	7.2	5	FKP2G006801D00
1000 pF	4.5	6	7.2	5	FKP2F011001D00	4.5	6	7.2	5	FKP2G011001D00
1500 „	4.5	6	7.2	5	FKP2F011501D00	4.5	6	7.2	5	FKP2G011501D00
2200 „	4.5	6	7.2	5	FKP2F012201D00	4.5	6	7.2	5	FKP2G012201D00
3300 „	5.5	7	7.2	5	FKP2F013301G00	5.5	7	7.2	5	FKP2G013301G00
4700 „	6.5	8	7.2	5	FKP2F014701I00	6.5	8	7.2	5	FKP2G014701I00
6800 „	6.5	8	7.2	5	FKP2F016801I00	7.2	8.5	7.2	5	FKP2G016801J00
0.01 mF	7.2	8.5	7.2	5	FKP2F021001J00	8.5	10	7.2	5	FKP2G021001L00
0.015 „	8.5	10	7.2	5	FKP2F021501L00					

\* AC voltage  $\leq f 1000 \text{ Hz}$ ;  $1.4 \times U_r + U_{DC} \leq U_r$

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

E12 values and individual values available from 27 pF up on request.

Dims. in mm.

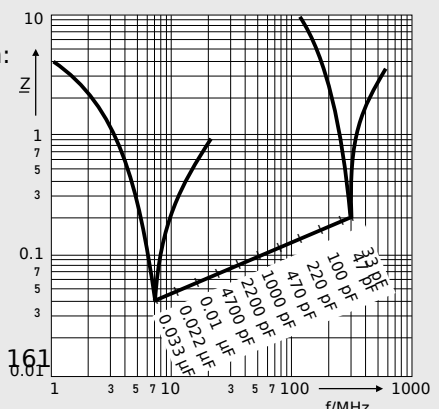


Part number completion:

- Tolerance: 20 % = M
- 10 % = K
- 5 % = J
- 2.5 % = H
- 2 % = G
- 1.5 % = F
- 1 % = E

Packing: bulk = S  
Pin length 6-2 = SD

Taped version see page 161



Impedance change with frequency (general guide).

Rights reserved to amend design data without prior notification.

Continuation page 36

## Continuation

### General Data

Capacitance	630 VDC/250 VAC*					800 VDC/250 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
100 pF	4.5	6	7.2	5	FKP2J001001D00	4.5	6	7.2	5	FKP2L001001D00
150 "	4.5	6	7.2	5	FKP2J001501D00	4.5	6	7.2	5	FKP2L001501D00
220 "	4.5	6	7.2	5	FKP2J002201D00	4.5	6	7.2	5	FKP2L002201D00
330 "	4.5	6	7.2	5	FKP2J003301D00	4.5	6	7.2	5	FKP2L003301D00
470 "	4.5	6	7.2	5	FKP2J004701D00	5.5	7	7.2	5	FKP2L004701G00
680 "	4.5	6	7.2	5	FKP2J006801D00	5.5	7	7.2	5	FKP2L006801G00
1000 pF	4.5	6	7.2	5	FKP2J011001D00	5.5	7	7.2	5	FKP2L011001G00
1500 "	4.5	6	7.2	5	FKP2J011501D00	5.5	7	7.2	5	FKP2L011501G00
2200 "	5.5	7	7.2	5	FKP2J012201G00	6.5	8	7.2	5	FKP2L012201I00
3300 "	6.5	8	7.2	5	FKP2J013301I00	7.2	8.5	7.2	5	FKP2L013301J00
4700 "	6.5	8	7.2	5	FKP2J014701I00	8.5	10	7.2	5	FKP2L014701L00
6800 "	7.2	8.5	7.2	5	FKP2J016801J00					
0.01 mF	8.5	10	7.2	5	FKP2J021001L00					

Capacitance	1000 VDC/250 VAC*				
	W	H	L	PCM**	Part number
33 pF	4.5	6	7.2	5	FKP2O100331D00
47 "	4.5	6	7.2	5	FKP2O100471D00
68 "	4.5	6	7.2	5	FKP2O100681D00
100 pF	4.5	6	7.2	5	FKP2O101001D00
150 "	4.5	6	7.2	5	FKP2O101501D00
220 "	4.5	6	7.2	5	FKP2O102201D00
330 "	4.5	6	7.2	5	FKP2O103301D00
470 "	5.5	7	7.2	5	FKP2O104701G00
680 "	5.5	7	7.2	5	FKP2O106801G00
1000 pF	6.5	8	7.2	5	FKP2O111001I00
1500 "	7.2	8.5	7.2	5	FKP2O111501J00
2200 "	8.5	10	7.2	5	FKP2O112201L00

E12 values and individual values available from 27 pF up on request.

Dims. in mm.

Part number completion:

Tolerance: 20 % = M  
 10 % = K  
 5 % = J  
 2.5 % = H  
 2 % = G  
 1.5 % = F  
 1 % = E

Packing: bulk = S  
 Pin length 6-2 = SD

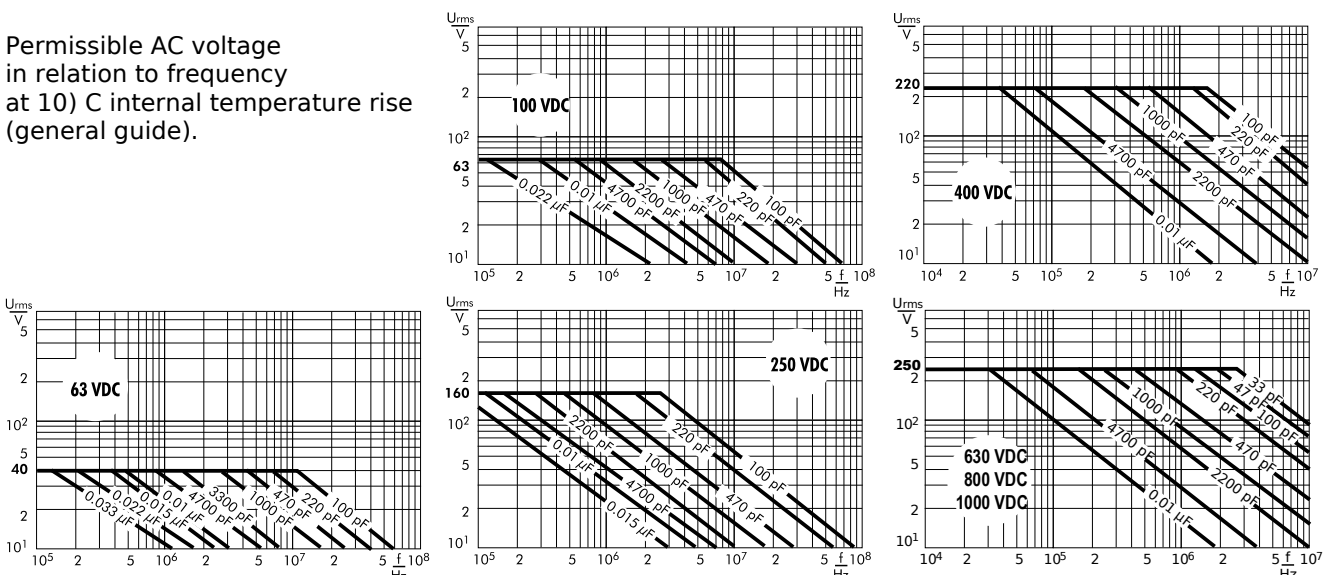
Taped version see page 161.

\* AC voltage  $\leq f \leq 1000$  Hz;  $1.4 \times U_r$  + UDC  $\leq U_r$

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

Rights reserved to amend design data without prior notification.

Permissible AC voltage in relation to frequency at 10°C internal temperature rise (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:  $260^\circ C$

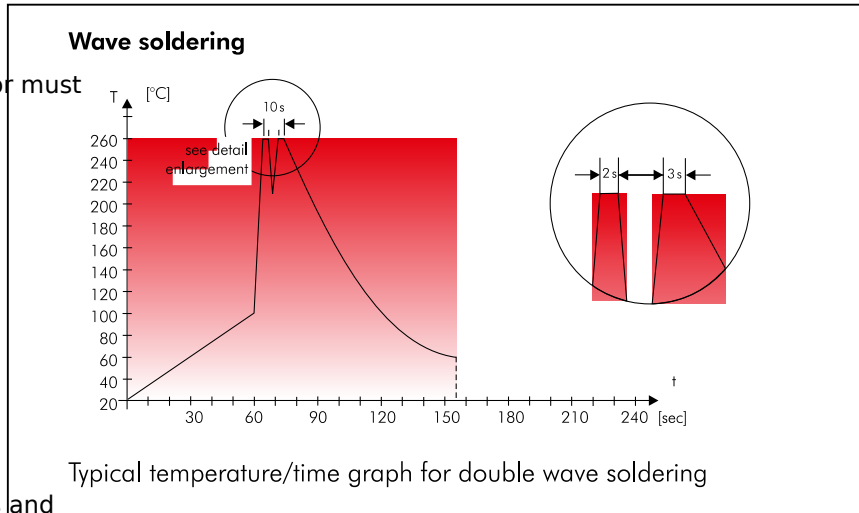
Dwell time:  $t < 5 \text{ sec}$

Double wave soldering

Soldering bath temperature:  $260^\circ C$

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

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 approach according to ISO 9001:2015 of our factories by the infaz (Institut für Auditing und Zertifizierung) certifies that organisational equipment and monitoring of quality assurance in our factories correspond to nationally 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 SMDs are made of environmentally friendly materials. Neither during manufacturing 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

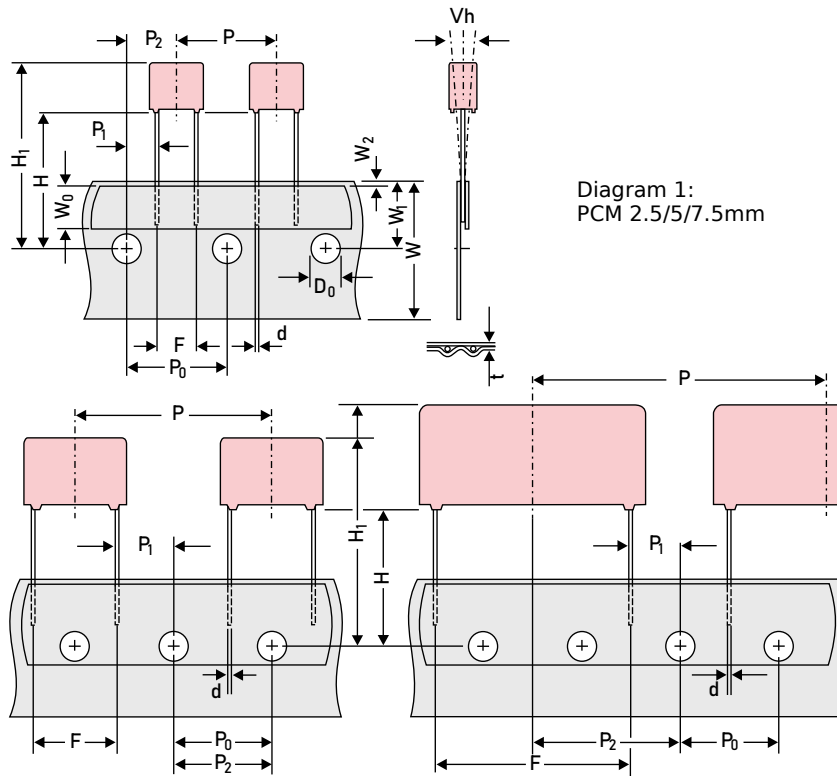


Diagram 2: PCM 10/15 mm

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 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	18.0 <sub>p0.5</sub>	
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 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	9.0 <sub>p0.5</sub>	
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 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	4.0 <sub>p0.2</sub>	
Pitch of component	P	12.7 <sub>p1.0</sub>	12.7 <sub>p1.0</sub>	12.7 <sub>p1.0</sub>	25.4 <sub>p1.0</sub>	25.4 <sub>p1.0</sub>	38.1 <sub>p1.5</sub>	38.1 <sub>p1.5</sub> or 50.8 <sub>p1.5</sub>	
Feed hole pitch	P <sub>0</sub>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	12.7 <sub>p0.3</sub> <small>cumulative pitch error max. 1.0 mm/20 pitch</small>	
Feed hole centre to pin	P <sub>1</sub>	5.1 <sub>p0.5</sub>	3.85 <sub>p0.7</sub>	2.6 <sub>p0.7</sub>	7.7 <sub>p0.7</sub>	5.2 <sub>p0.7</sub>	7.8 <sub>p0.7</sub>	5.3 <sub>p0.7</sub>	
Hole centre to component centre	P <sub>2</sub>	6.35 <sub>p1.3</sub>	6.35 <sub>p1.3</sub>	6.35 <sub>p1.3</sub>	12.7 <sub>p1.3</sub>	12.7 <sub>p1.3</sub>	19.05 <sub>p1.3</sub>	19.05 <sub>p1.3</sub>	
Feed hole centre to bottom edge of the component	P <sub>3</sub>	16.5 <sub>p0.3</sub>	16.5 <sub>p0.3</sub>	16.5 <sub>p0.5</sub>	16.5 <sub>p0.5</sub>	16.5 <sub>p0.5</sub>	16.5 <sub>p0.5</sub>	16.5 <sub>p0.5</sub>	
Feed hole centre to top edge of the component	H <sub>1</sub>	H + H <sub>component</sub> ≤ H 32.25 max.	H + H <sub>component</sub> ≤ H 32.25 max.	H + H <sub>component</sub> ≤ H 24.5 to 31.5	H + H <sub>component</sub> ≤ H 25.0 to 31.5	H + H <sub>component</sub> ≤ H 26.0 to 37.0	H + H <sub>component</sub> ≤ H 30.0 to 43.0	H + H <sub>component</sub> ≤ H 35.0 to 45.0	
Pin spacing at upper edge of carrier tape	F	2.5 <sub>p0.5</sub>	5.0 <sup>+0.8</sup> <sub>-0.2</sub>	7.5 <sub>p0.8</sub>	10.0 <sub>p0.8</sub>	15 <sub>p0.8</sub>	22.5 <sub>p0.8</sub>	27.5 <sub>p0.8</sub>	
Pin diameter	d	0.4 <sub>p0.05</sub>	0.5 <sub>p0.05</sub>	0.5 <sub>p0.05</sub> or 0.6 <sup>+0.06</sup> <sub>-0.05</sub>	0.5 <sub>p0.05</sub> 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	D <sub>h</sub>	p 2.0 max.	p 2.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.	
Total tape thickness	t	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	0.6 <sub>p0.2</sub>	
Package (see also page 162)		ROLL/AMMO				AMMO			
		REE P 360 max. P 30 p1	B 52 p2 58 p2 } depending on comp. dimensions		REE P 360 max. P 30 p1	B 52 p2 58 p2 or 66 p2	REE P 500 max. P 25 p1	B 54 p2 60 p2 } depending on PCM and component dimensions	
Unit		see details page 163.							

Dims in mm.

- Diameter of pins see General Data.

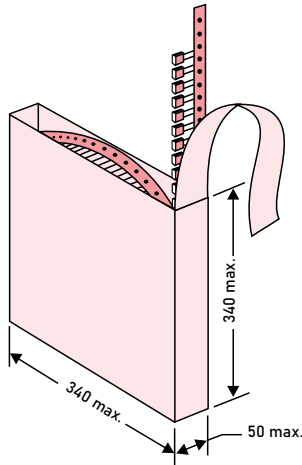
\* PCM 10 and PCM 15 can be crimped to PCM 7.5.

Position of components according to PCM 7.5 (sketch 1) or P15.0 is possible

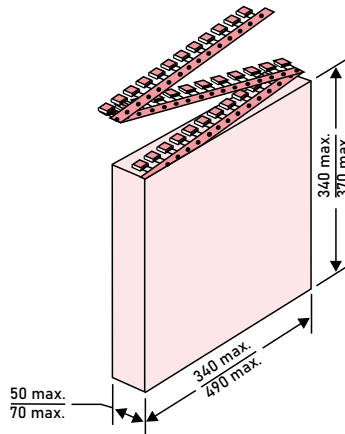
Please clarify customer-specific deviations with the manufacturer.

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

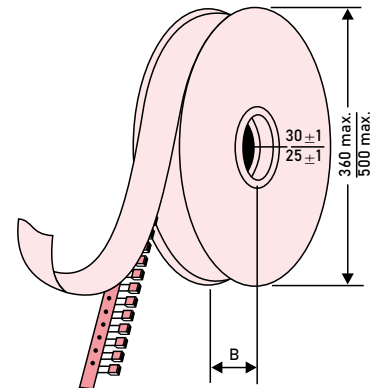
~ ROLL Packaging



~ 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

**WIMA** 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

Customer No.: 0000100002 COO: DE

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

BARCODE PDF417  
BARCODE 2D Datamatrix



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

PCM	Size				bulk	ROLL								pcs. per packing unit			
						AMMO				REEL				340x340		490x370	
	W	H	L	Codes		S	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5
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		-		640		-				
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		3000			
	4.5	9.5	10.3	2D	3500	-		1500		2900		1400		2700			
	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		-		1100			
	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	570*	-		-		420		-		380			
10.5	19	26.5	5G	594*	-		-		400		-		360				
10.5	20.5	26.5	5H	594*	-		-		400		-		360				
11	21	26.5	5I	561*	-		-		380		-		350				
12	24	28	FJ	480*	-		-		350		-		310				

\* TPS (Tray-Packing-System). Plate versions may have different packing units. Unplated versions. Rights reserved to amend design data without prior notification. Samples and pre-production needs on request.



## 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	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5	H18.5	H16.5
P 360		P 500		340x340		490x370									
N	O	F	I	H	J	A	C	B	D						
27.5 mm	9	19	31.5	6A	567*	-	-	-	-	460/340*	-	-	-	-	
	11	21	31.5	6B	459*	-	-	-	-	380/280*	-	-	-	-	
	13	24	31.5	6D	378*	-	-	-	-	300	-	-	-	-	
	13	25	33	FK	405*	-	-	-	-	-	-	-	-	-	
	15	26	31.5	6F	324*	-	-	-	-	270	-	-	-	-	
	15	26	33	FL	324*	-	-	-	-	-	-	-	-	-	
	17	29	31.5	6G	198*	-	-	-	-	-	-	-	-	-	
	17	34.5	31.5	6I	198*	-	-	-	-	-	-	-	-	-	
	20	32	33	FM	162*	-	-	-	-	-	-	-	-	-	
	20	39.5	31.5	6J	162*	-	-	-	-	-	-	-	-	-	
37.5 mm	9	19	41.5	7A	441*	-	-	-	-	-	-	-	-	-	
	11	22	41.5	7B	357*	-	-	-	-	-	-	-	-	-	
	13	24	41.5	7C	294*	-	-	-	-	-	-	-	-	-	
	15	26	41.5	7D	252*	-	-	-	-	-	-	-	-	-	
	17	29	41.5	7E	154*	-	-	-	-	-	-	-	-	-	
	19	32	41.5	7F	140*	-	-	-	-	-	-	-	-	-	
	20	39.5	41.5	7G	126*	-	-	-	-	-	-	-	-	-	
	24	45.5	41.5	7H	112*	-	-	-	-	-	-	-	-	-	
	28	38	41.5	7L	84*	-	-	-	-	-	-	-	-	-	
	31	46	41.5	7I	84*	-	-	-	-	-	-	-	-	-	
35	50	41.5	7J	35*	-	-	-	-	-	-	-	-	-		
40	55	41.5	7K	28*	-	-	-	-	-	-	-	-	-		
48.5 mm	19	31	56	8D	120*	-	-	-	-	-	-	-	-	-	
	23	34	56	8E	80*	-	-	-	-	-	-	-	-	-	
	27	37.5	56	8H	84*	-	-	-	-	-	-	-	-	-	
	33	48	56	8J	25*	-	-	-	-	-	-	-	-	-	
	37	54	56	8L	25*	-	-	-	-	-	-	-	-	-	
52.5 mm	25	45	57	9D	70*	-	-	-	-	-	-	-	-	-	
	30	45	57	9E	60*	-	-	-	-	-	-	-	-	-	
	35	50	57	9F	25*	-	-	-	-	-	-	-	-	-	
	45	55	57	9H	20*	-	-	-	-	-	-	-	-	-	
	45	65	57	9J	20*	-	-	-	-	-	-	-	-	-	

\* for 2-inch transport pitches.   Moulded versions. Rights reserved to amend design data without prior notification.  
 \* TPS (Tray-Packing-System). Plate versions may have different packing units.  
 Samples and pre-production needs on request.

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





# 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 mF			2.5 x 6.5 x 7.2		-		20 %		bulk	6 -2	

<p>Type description:</p> <p>SMD-PET = SMDT</p> <p>SMD-PEN = SMDN</p> <p>SMD-PPS = SMDI</p> <p>FKP 02 = FKPO</p> <p>MKS 02 = MKS0</p> <p>FKS 2 = FKS2</p> <p>FKP 2 = FKP2</p> <p>FKS 3 = FKS3</p> <p>FKP 3 = FKP 3</p> <p>MKS 2 = MKS2</p> <p>MKP 2 = MKP2</p> <p>MKS 4 = MKS4</p> <p>MKP 4 = MKP4</p> <p>MKP 10 = MKP1</p> <p>FKP 4 = FKP4</p> <p>FKP 1 = FKP1</p> <p>MKP-X2 = MKX2</p> <p>MKP-X1 R = MKX1</p> <p>MKP-Y2 = MKY2</p> <p>MP 3-X2 = MPX2</p> <p>MP 3-X1 = MPX1</p> <p>MP 3-Y2 = MPY2</p> <p>MP 3R-Y2 = MPRY</p> <p>MKP 4F = MKPF</p> <p>Snubber MKP = SNMP</p> <p>Snubber FKP = SNFP</p> <p>GTO MKP = GTOM</p> <p>DC-LINK MKP 4 = DCP4</p> <p>DC-LINK MKP 6 = DCP6</p> <p>DC-LINK HC = DCHC</p>	<p>Rated voltage:</p> <p>50 VDC = B0</p> <p>63 VDC = C0</p> <p>100 VDC = D0</p> <p>250 VDC = F0</p> <p>400 VDC = G0</p> <p>450 VDC = H0</p> <p>520 VDC = H2</p> <p>600 VDC = I0</p> <p>630 VDC = J0</p> <p>700 VDC = K0</p> <p>800 VDC = L0</p> <p>850 VDC = M0</p> <p>900 VDC = N0</p> <p>1000 VDC = O1</p> <p>1100 VDC = P0</p> <p>1200 VDC = Q0</p> <p>1250 VDC = R0</p> <p>1500 VDC = S0</p> <p>1600 VDC = T0</p> <p>1700 VDC = TA</p> <p>2000 VDC = U0</p> <p>2500 VDC = V0</p> <p>3000 VDC = W0</p> <p>4000 VDC = X0</p> <p>6000 VDC = Y0</p> <p>250 VAC = 0W</p> <p>275 VAC = 1W</p> <p>300 VAC = 2W</p> <p>305 VAC = AW</p> <p>350 VAC = BW</p> <p>440 VAC = 4W</p> <p>500 VAC = 5W</p> <p>...</p>	<p>Capacitance:</p> <p>22 pF = 0022</p> <p>47 pF = 0047</p> <p>100 pF = 0100</p> <p>150 pF = 0150</p> <p>220 pF = 0220</p> <p>330 pF = 0330</p> <p>470 pF = 0470</p> <p>680 pF = 0680</p> <p>1000 pF = 1100</p> <p>1500 pF = 1150</p> <p>2200 pF = 1220</p> <p>3300 pF = 1330</p> <p>4700 pF = 1470</p> <p>6800 pF = 1680</p> <p>0.01 mF = 2100</p> <p>0.022 mF = 2220</p> <p>0.047 mF = 2470</p> <p>0.1 mF = 3100</p> <p>0.22 mF = 3220</p> <p>0.47 mF = 3470</p> <p>1 mF = 4100</p> <p>2.2 mF = 4220</p> <p>4.7 mF = 4470</p> <p>10 mF = 5100</p> <p>22 mF = 5220</p> <p>47 mF = 5470</p> <p>100 mF = 6100</p> <p>220 mF = 6220</p> <p>1000 mF = 7100</p> <p>1500 mF = 7150</p> <p>...</p>	<p>Size:</p> <p>4.8 x 3.3 x 3 Size 181KA</p> <p>4.8 x 3.3 x 4 Size 181KB</p> <p>5.7 x 5.1 x 3.5 Size 2220 = 181K</p> <p>5.7 x 5.1 x 4.5 Size 2220 = 181L</p> <p>7.2 x 6.1 x 3 Size 2827A</p> <p>7.2 x 6.1 x 5 Size 2827B</p> <p>10.2 x 7.6 x 5 Size 4030</p> <p>12.7 x 10.2 x 6 Size 5040</p> <p>15.3 x 13.7 x 7 Size 6054</p> <p>2.5 x 7 x 4.6 PCM 2-50B</p> <p>3 x 7.5 x 4.6 PCM 2-50C</p> <p>2.5 x 6.5 x 7.2 PCM 5-1A</p> <p>3 x 7.5 x 7.2 PCM 5-1B</p> <p>2.5 x 7 x 10 PCM 7-5 2A</p> <p>3 x 8.5 x 10 PCM 7-5 2B</p> <p>3 x 9 x 13 PCM 10 = 3A</p> <p>4 x 9 x 13 PCM 10 = 3C</p> <p>5 x 11 x 18 PCM 15 = 4B</p> <p>6 x 12.5 x 18 PCM 1-54C</p> <p>5 x 14 x 26.5 PCM 2-25A</p> <p>6 x 15 x 26.5 PCM 2-25B</p> <p>9 x 19 x 31.5 PCM 2-76A</p> <p>11 x 21 x 31.5 PCM 27.5 = 6B</p> <p>9 x 19 x 41.5 PCM 3-77A</p> <p>11 x 22 x 41.5 PCM 37.5 = 7B</p> <p>19 x 31 x 56 PCM 48.8D</p> <p>25 x 45 x 57 PCM 52.9D</p> <p>...</p>	<p>Tolerance:</p> <p>±20 % = M</p> <p>±10 % = K</p> <p>±5 % = J</p> <p>±2.5 % = H</p> <p>±1 % = E</p> <p>...</p> <p>VA</p> <p>XA</p> <p>Packing:</p> <p>AMMO H16.5 340 x 340 = A</p> <p>AMMO H16.5 490 x 370 = B</p> <p>AMMO H18.5 340 x 340 = C</p> <p>AMMO H18.5 490 x 370 = D</p> <p>REEL H16.5 360 = F</p> <p>REEL H16.5 500 = H</p> <p>REEL H18.5 360 = I</p> <p>REEL H18.5 500 = J</p> <p>ROLL H16.5 = N</p> <p>ROLL H18.5 = O</p> <p>BLISTER W12 180 = P</p> <p>BLISTER W12 330 = Q</p> <p>BLISTER W16 330 = R</p> <p>BLISTER W24 330 = T</p> <p>Bulk/TPS Standard = S</p> <p>.7B</p>	<p>Version code:</p> <p>Standard = 00</p> <p>Version A1 = 1A</p> <p>Version A1.1.1 = 1B</p> <p>Version A2 = 2A</p> <p>...</p>	<p>Pin length (untaped)</p> <p>3.5 ±0.5 = C9</p> <p>6 -2 = SD</p> <p>16 ±1 = P1</p> <p>...</p> <p>Pin length (taped)</p> <p>none = 00</p>
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The data on this page is not complete and serves only to explain the part number system. Part number information is pages of the respective WIMA range.