

Polypropylene (PP) Film and Foil Capacitors for Pulse Applications in PCM 7.5 mm to 15 mm. Capacitances from 100 pF to 0.22 µF. Rated Voltages from 63 VDC to 1000 VDC.

Special Features

- Pulse duty construction
- 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

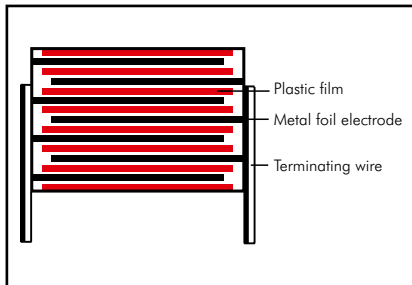
Dielectric:

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:

100 pF to 0.22 µF (E12-values on request)

Rated voltages:

63 VDC, 100 VDC, 250 VDC, 400 VDC, 630 VDC, 850 VDC, 1000 VDC

Capacitance tolerances:

±20%, ±10%, ±5%

Operating temperature range:

-55° C to +105° C

Test specifications:

In accordance with IEC 60384-13

Climatic test category:

55/100/56 in accordance with IEC

Insulation resistance at +20° C:

≥ 3 x 10⁵ MΩ

Measuring voltage:

U_r = 63 V: U_{test} = 50 V/1 min.

U_r ≥ 100 V: U_{test} = 100 V/1 min.

Test voltage: 2 U_r, 2 sec.

Maximum pulse rise time:

1000 V/µsec.

Dielectric absorption:

0.05 %

Temperature coefficient:

-200 x 10⁻⁶/° C (general guide)

Dissipation factors at +20° C: tan δ

at f	C ≤ 0.1 µF	0.1 µF < C ≤ 0.22 µF
1 kHz	≤ 5 x 10 ⁻⁴	≤ 5 x 10 ⁻⁴
10 kHz	≤ 6 x 10 ⁻⁴	≤ 6 x 10 ⁻⁴
100 kHz	≤ 8 x 10 ⁻⁴	-

Voltage derating:

A voltage derating factor of 1.35 % per K must be applied from +85° C for DC voltages and from +75° C for AC voltages.

Reliability:

Operational life > 300 000 hours

Failure rate < 5 fit (0.5 x 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.

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						3	8.5	10	7.5	FKP3D001002B00_
150 "						3	8.5	10	7.5	FKP3D001502B00_
220 "						3	8.5	10	7.5	FKP3D002202B00_
330 "						3	8.5	10	7.5	FKP3D003302B00_
470 "						3	8.5	10	7.5	FKP3D004702B00_
680 "						3	8.5	10	7.5	FKP3D006802B00_
1000 pF						3	8.5	10	7.5	FKP3D011002B00_
1500 "						3	8.5	10	7.5	FKP3D011502B00_
2200 "						3	8.5	10	7.5	FKP3D012202B00_
3300 "						3	8.5	10	7.5	FKP3D013302B00_
4700 "						3	8.5	10	7.5	FKP3D014702B00_
6800 "						4	9	10	7.5	FKP3D016802C00_
0.01 µF						4	9	10	7.5	FKP3D021002C00_
0.015 "	4	9	10	7.5	FKP3C021502C00_	4	9.5	13	10	FKP3D021503D00_
0.022 "	4	9.5	13	10	FKP3C022203D00_	5	11	13	10	FKP3D022203F00_
0.033 "	4	9.5	13	10	FKP3C023303D00_	6	12	13	10	FKP3D023303G00_
0.047 "	5	11	13	10	FKP3C024703F00_	5	11	18	15	FKP3D024704B00_
0.068 "	6	12	13	10	FKP3C026803G00_	6	12.5	18	15	FKP3D026804C00_
0.1 µF	6	12.5	18	15	FKP3C031004C00_	7	14	18	15	FKP3D031004D00_
0.15 "	8	15	18	15	FKP3C031504F00_	9	16	18	15	FKP3D031504J00_
0.22 "	9	16	18	15	FKP3C032204J00_					

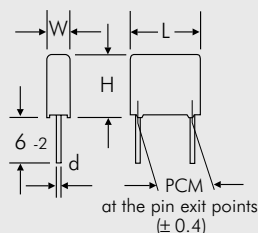
Capacitance	250 VDC/160 VAC*					400 VDC/250 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
100 pF	3	8.5	10	7.5	FKP3F001002B00_	3	8.5	10	7.5	FKP3G001002B00_
150 "	3	8.5	10	7.5	FKP3F001502B00_	3	8.5	10	7.5	FKP3G001502B00_
220 "	3	8.5	10	7.5	FKP3F002202B00_	3	8.5	10	7.5	FKP3G002202B00_
330 "	3	8.5	10	7.5	FKP3F003302B00_	3	8.5	10	7.5	FKP3G003302B00_
470 "	3	8.5	10	7.5	FKP3F004702B00_	3	8.5	10	7.5	FKP3G004702B00_
680 "	3	8.5	10	7.5	FKP3F006802B00_	3	8.5	10	7.5	FKP3G006802B00_
1000 pF	3	8.5	10	7.5	FKP3F011002B00_	3	8.5	10	7.5	FKP3G011002B00_
1500 "	3	8.5	10	7.5	FKP3F011502B00_	4	9	10	7.5	FKP3G011502C00_
2200 "	4	9	10	7.5	FKP3F012202C00_	4	9	10	7.5	FKP3G012202C00_
						4	9.5	13	10	FKP3G012203D00_
3300 "	3	9	13	10	FKP3F013303A00_	4	9.5	13	10	FKP3G013303D00_
4700 "	4	9.5	13	10	FKP3F014703D00_	5	11	13	10	FKP3G014703F00_
6800 "	5	11	13	10	FKP3F016803F00_	6	12	13	10	FKP3G016803G00_
0.01 µF	5	11	13	10	FKP3F021003F00_	5	11	18	15	FKP3G021004B00_
0.015 "	6	12	13	10	FKP3F021503G00_	6	12.5	18	15	FKP3G021504C00_
	5	11	18	15	FKP3F021504B00_					
0.022 "	6	12.5	18	15	FKP3F022204C00_	7	14	18	15	FKP3G022204D00_
0.033 "	7	14	18	15	FKP3F023304D00_	8	15	18	15	FKP3G023304F00_
0.047 "	8	15	18	15	FKP3F024704F00_	9	16	18	15	FKP3G024704J00_
0.068 "	9	16	18	15	FKP3F026804J00_					

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

** PCM = Printed circuit module = pin spacing

Dims. in mm.

$d = 0.5 \phi$ if $W = 3$
 $d = 0.6 \phi$ if $W \geq 4$
 $d = 0.8 \phi$ if $\text{PCM} = 15$



Part number completion:

Tolerance: 20 % = M
 10 % = K
 5 % = J

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

Taped version see page 161.

Rights reserved to amend design data without prior notification.

Continuation

General Data

Capacitance	630 VDC/300 VAC*					850 VDC/300 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
100 pF	3	8.5	10	7.5	FKP3J001002B00_____	3	8.5	10	7.5	FKP3M001002B00_____
150 "	3	8.5	10	7.5	FKP3J001502B00_____	3	8.5	10	7.5	FKP3M001502B00_____
220 "	3	8.5	10	7.5	FKP3J002202B00_____	3	8.5	10	7.5	FKP3M002202B00_____
330 "	3	8.5	10	7.5	FKP3J003302B00_____	3	8.5	10	7.5	FKP3M003302B00_____
470 "	3	8.5	10	7.5	FKP3J004702B00_____	3	8.5	10	7.5	FKP3M004702B00_____
680 "	3	8.5	10	7.5	FKP3J006802B00_____	3	8.5	10	7.5	FKP3M006802B00_____
1000 pF	4	9	10	7.5	FKP3J011002C00_____	4	9	10	7.5	FKP3M011002C00_____
1500 "	4	9.5	13	10	FKP3J011503D00_____	4	9.5	13	10	FKP3M011503D00_____
2200 "	4	9.5	13	10	FKP3J012203D00_____	4	9.5	13	10	FKP3M012203D00_____
3300 "	5	11	13	10	FKP3J013303F00_____	5	11	13	10	FKP3M013303F00_____
4700 "	6	12	13	10	FKP3J014703G00_____	6	12	13	10	FKP3M014703G00_____
6800 "	5	11	18	15	FKP3J016804B00_____	5	11	18	15	FKP3M016804B00_____
0.01 µF	6	12.5	18	15	FKP3J021004C00_____	6	12.5	18	15	FKP3M021004C00_____
0.015 "	8	15	18	15	FKP3J021504F00_____	8	15	18	15	FKP3M021504F00_____
0.022 "	9	16	18	15	FKP3J022204J00_____	9	16	18	15	FKP3M022204J00_____
0.033 "	9	16	18	15	FKP3J023304J00_____					

Capacitance	1000 VDC/300 VAC*				
	W	H	L	PCM**	Part number
100 pF	3	8.5	10	7.5	FKP3O101002B00_____
150 "	3	8.5	10	7.5	FKP3O101502B00_____
220 "	3	8.5	10	7.5	FKP3O102202B00_____
330 "	3	8.5	10	7.5	FKP3O103302B00_____
470 "	3	8.5	10	7.5	FKP3O104702B00_____
680 "	3	8.5	10	7.5	FKP3O106802B00_____
1000 pF	4	9	10	7.5	FKP3O111002C00_____
1500 "	4	9.5	13	10	FKP3O111503D00_____
2200 "	4	9.5	13	10	FKP3O112203D00_____
3300 "	5	11	13	10	FKP3O113303F00_____
4700 "	6	12	13	10	FKP3O114703G00_____
6800 "	5	11	18	15	FKP3O116804B00_____
0.01 µF	6	12.5	18	15	FKP3O121004C00_____
0.015 "	8	15	18	15	FKP3O121504F00_____
0.022 "	9	16	18	15	FKP3O122204J00_____

Part number completion:

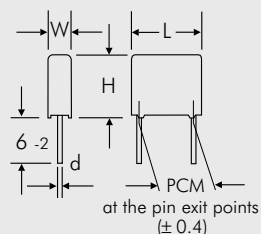
Tolerance: 20 % = M
 10 % = K
 5 % = J
 Packing: bulk = S
 Pin length: 6-2 = SD
 Taped version see page 161.

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

** PCM = Printed circuit module = pin spacing

Dims. in mm.

$d = 0.5 \phi$ if $W = 3$
 $d = 0.6 \phi$ if $W \geq 4$
 $d = 0.8 \phi$ if PCM = 15

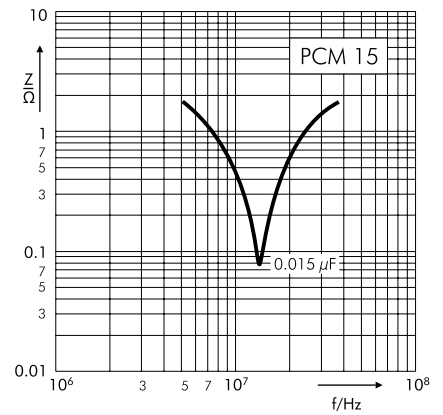
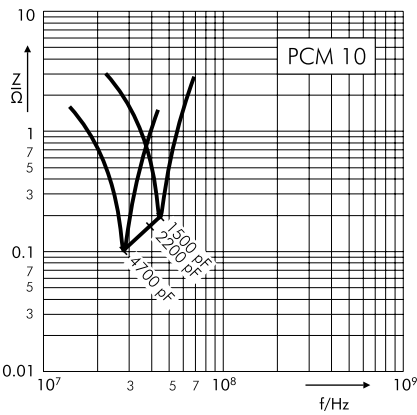
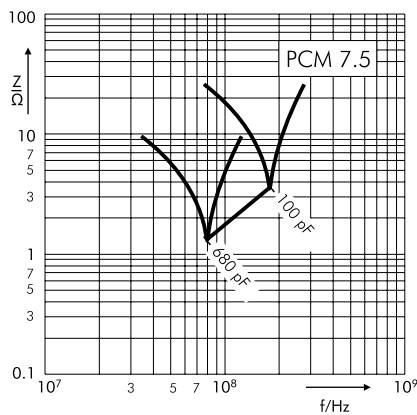


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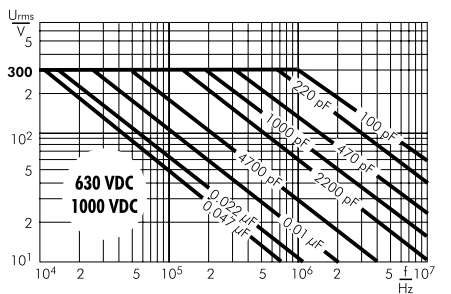
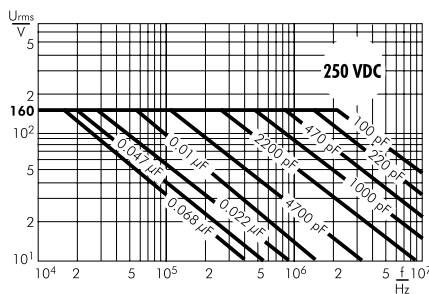
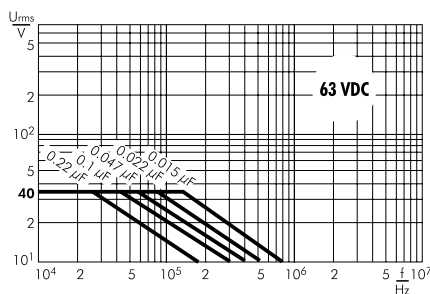
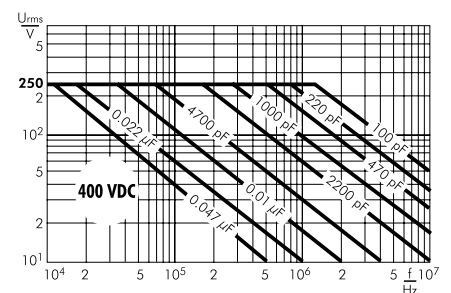
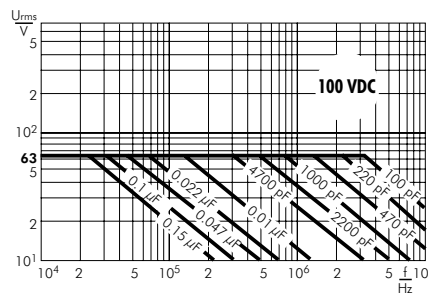
Continuation page 43

Continuation

Impedance change with frequency
(general guidel).



Permissible AC voltage
in relation to frequency
at 10° C internal temperature rise
(general guidel).



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

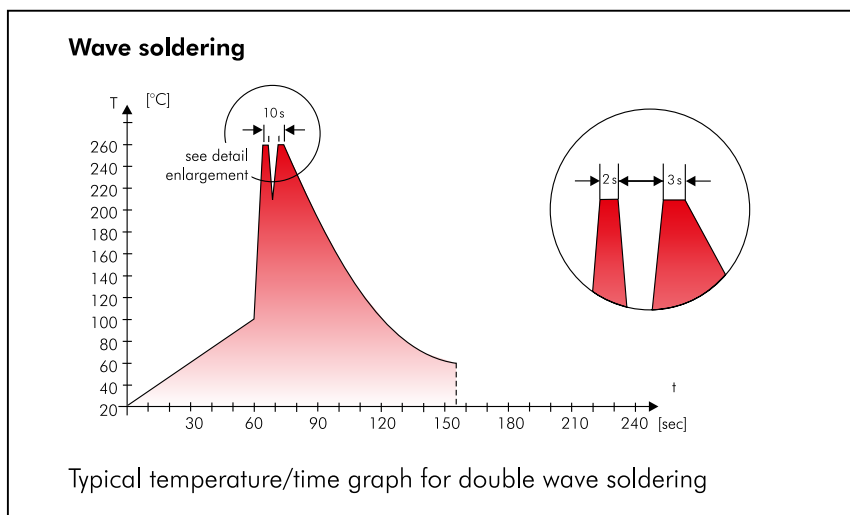
Dwell time: $t < 5\text{ sec}$

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.



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

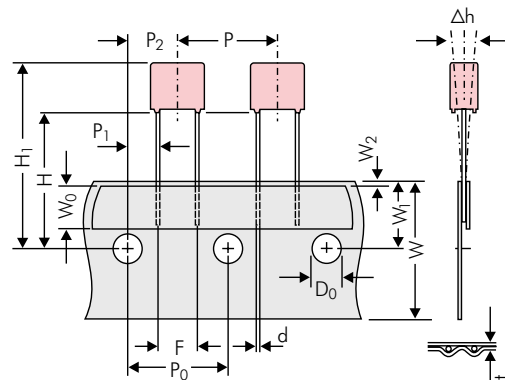


Diagram 1:
PCM 2.5/5/7.5mm

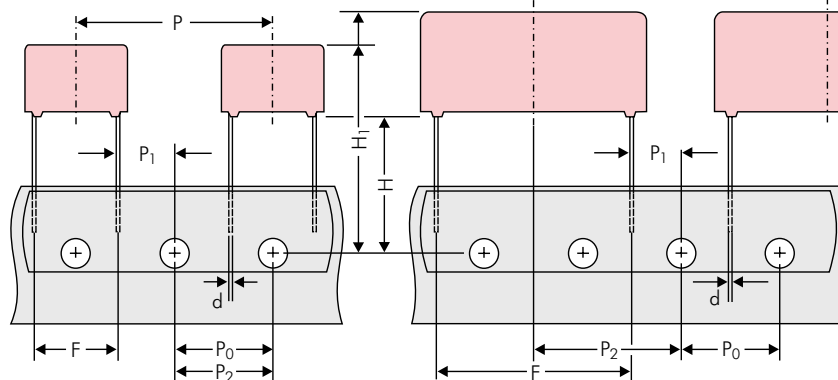


Diagram 2: PCM 10/15 mm

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 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	0.6 ±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 Ø 360 max. Ø 30 ±1	B 52 ±2 58 ±2 } depending on comp. dimensions		REEL Ø 360 max. Ø 30 ±1	52 ±2 58 ±2 or 66 ±2	REEL Ø 500 max. Ø 25 ±1	54 ±2 60 ±2 or 68 ±2 } depending on PCM and component dimensions
Unit		see details page 163.						

Dims in mm.

* Diameter of pins see General Data.

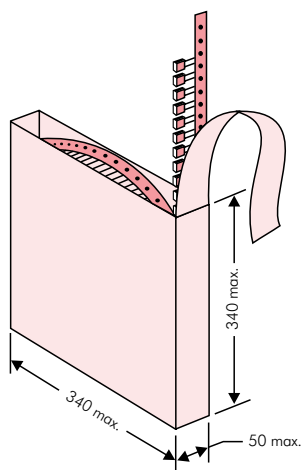
Please clarify customer-specific deviations with the manufacturer.

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

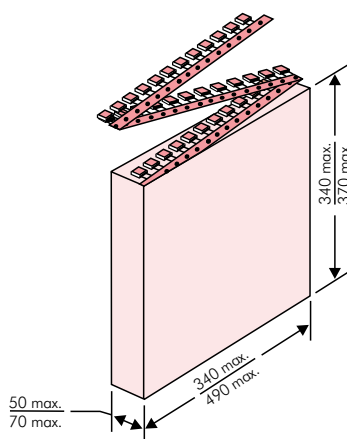
Position of components according to PCM 7.5 (sketch 1). P₀ = 12.7 or 15.0 is possible

Types of Tape Packaging of Capacitors for Automatic Radial Insertion

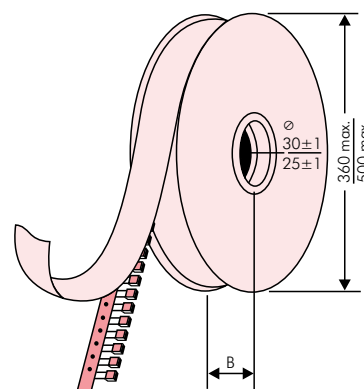
■ ROLL Packaging



■ 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	
	
Customer No.: 0000100002	RoHS 2011/65/EU
Gross Weight [g]: 4557	COO: DE
	
WIMA - MKP 10 WIMA Part No.: MKP1F041006B00KSSD	
MKP 10 1.0 µF 250 VDC 11x21x31.5 RM27.5	
Standard 10% Lose - Standard	Drahte 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							
	W	H	L	Codes		H16.5	H18.5	ø 360	ø 500	340 x 340	490 x 370	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		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	5H	500	–		–		500		–		480	
	8.5	18.5	26.5	5F	500	–		–		480		–		450	
22.5 mm	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.
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	ROLL		REEL				AMMO			
						H16.5	H18.5	ø 360		ø 500		340 × 340		490 × 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
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.

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

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Updated data on 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
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-PEN = SMDN				63 VDC = C0		47 pF = 0047			4.8x3.3x4 Size 1812 = KB					±10% = K			
SMD-PPS = SMDI				100 VDC = D0		100 pF = 0100			5.7x5.1x3.5 Size 2220 = QA					±5% = J			
FKP 02 = FKPO				250 VDC = F0		150 pF = 0150			5.7x5.1x4.5 Size 2220 = QB					±2.5% = H			
MKS 02 = MKS0				400 VDC = G0		220 pF = 0220			7.2x6.1x3 Size 2824 = TA					±1% = E			
FKS 2 = FKS2				450 VDC = H0		330 pF = 0330			7.2x6.1x5 Size 2824 = TB					...			
FKP 2 = FKP2				520 VDC = H2		470 pF = 0470			10.2x7.6x5 Size 4030 = VA								
FKS 3 = FKS3				600 VDC = I0		680 pF = 0680			12.7x10.2x6 Size 5040 = XA								
FKP 3 = FKPD				630 VDC = J0		1000 pF = 1100			15.3x13.7x7 Size 6054 = YA								
MKS 2 = MKS2				700 VDC = K0		1500 pF = 1150			2.5x7x4.6 PCM 2.5 = 0B								
MKP 2 = MKPD				800 VDC = L0		2200 pF = 1220			3x7.5x4.6 PCM 2.5 = 0C								
MKS 4 = MKS4				850 VDC = M0		3300 pF = 1330			2.5x6.5x7.2 PCM 5 = 1A								
MKP 4 = MKPD				900 VDC = N0		4700 pF = 1470			3x7.5x7.2 PCM 5 = 1B								
MKP 10 = MKPD				1000 VDC = O1		6800 pF = 1680			2.5x7x10 PCM 7.5 = 2A								
FKP 4 = FKPD				1100 VDC = P0		0.01 μF = 2100			3x8.5x10 PCM 7.5 = 2B								
FKP 1 = FKPD				1200 VDC = Q0		0.022 μF = 2220			3x9x13 PCM 10 = 3A								
MKP-X2 = MKX2				1250 VDC = R0		0.047 μF = 2470			4x9x13 PCM 10 = 3C								
MKP-X1 R = MKX1				1500 VDC = S0		0.1 μF = 3100			5x11x18 PCM 15 = 4B								
MKP-Y2 = MKY2				1600 VDC = T0		0.22 μF = 3220			6x12.5x18 PCM 15 = 4C								
MP 3-X2 = MPX2				1700 VDC = TA		0.47 μF = 3470			5x14x26.5 PCM 22.5 = 5A								
MP 3-X1 = MPX1				2000 VDC = U0		1 μF = 4100			6x15x26.5 PCM 22.5 = 5B								
MP 3-Y2 = MPY2				2500 VDC = V0		2.2 μF = 4220			9x19x31.5 PCM 27.5 = 6A								
MP 3R-Y2 = MPRY				3000 VDC = W0		4.7 μF = 4470			11x21x31.5 PCM 27.5 = 6B								
MKP 4F = MKPF				4000 VDC = X0		10 μF = 5100			9x19x41.5 PCM 37.5 = 7A								
Snubber MKP = SNMP				6000 VDC = Y0		22 μF = 5220			11x22x41.5 PCM 37.5 = 7B								
Snubber FKP = SNFP				250 VAC = 0V		47 μF = 5470			19x31x56 PCM 48.5 = 8D								
GTO MKP = GTOM				275 VAC = 1V		100 μF = 6100			25x45x57 PCM 52.5 = 9D								
DC-LINK MKP 4 = DCP4				300 VAC = 2V		220 μF = 6220			...								
DC-LINK MKP 6 = DCP6				305 VAC = AV		1000 μF = 7100											
DC-LINK HC = DCHC				350 VAC = BV		1500 μF = 7150											
				440 VAC = 4V		...											
				500 VAC = 5V													
				...													
						</											