

WIMA MKP 4F



Metallized Polypropylen (PP) Filter Capacitors
in PCM 27.5 mm to 52.5 mm. Capacitances from 0.68 µF to 75 µF.
Rate Voltages from 230 VAC to 440 VAC.

Special Features

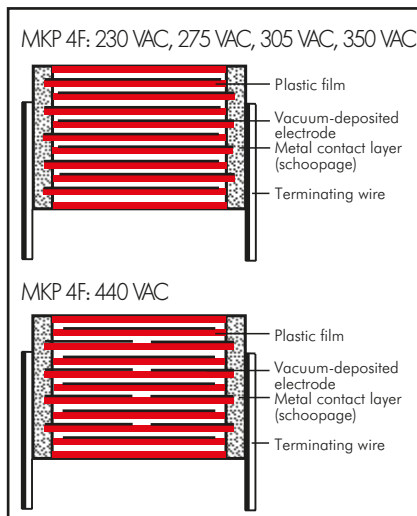
- High volume/capacitance ratio
- High peak current capabilities
- Self-healing
- Long lifetime
- AEC-Q200 qualified
- According to RoHS 2015/863/EU

Typical Applications

- For high frequency applications e.g.
- AC filtering in UPS systems
 - Harmonic filter
 - Welding equipment
 - Renewable energy - grid interface

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:
 0.68 µF to 75 µF
Rated voltages: 230 VAC, 275 VAC, 305 VAC, 350 VAC, 440 VAC
Capacitance tolerances:
 ±20%, ±10%, ±5%
Operating temperature range:
 -55° C to +105° C
Climatic test category:
 55/105/56 in accordance with IEC
Insulation resistance at +20° C:
 ≥ 30 000 sec (MΩ x µF)
 Measuring voltage: 100 V/1 min.
Test voltage:
 1.5 U_{rDC}, 10sec.
Test specifications: In accordance with IEC 61071 and 60068
Dissipation factors at +20° C: tan δ

at f	PCM 27.5	PCM 37.5	PCM 52.5
1 kHz	≤ 5 x 10 ⁻⁴	≤ 10 x 10 ⁻⁴	≤ 15 x 10 ⁻⁴
10 kHz	≤ 20 x 10 ⁻⁴	≤ 45 x 10 ⁻⁴	≤ 90 x 10 ⁻⁴

Reference frequency 1 kHz in accordance with IEC 60384-1

Maximum pulse rise time:

PCM	max. pulse rise time V/µsec at T _A < 40° C				
	230 VAC	275 VAC	305 VAC	350 VAC	440 VAC
27.5	45	55	68	100	110
37.5	20	30	35	50	70
52.5	10	13	15	25	40

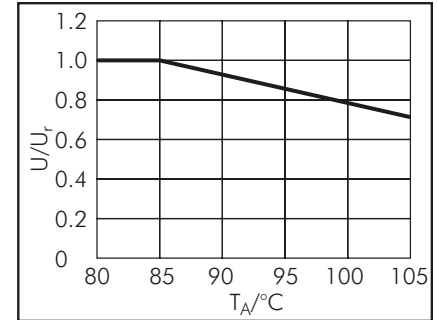
for pulses equal to the rated voltage (U_{rDC})

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

Voltage derating:

A voltage derating factor must be applied according to the graph:



Reliability:

Operational life > 60 000 hours at U_r
 Failure rate < 10 fit (0.5 x U_r and 40° C)

Packing

Available taped and reeled up to and including case size 15 x 26 x 31.5 / PCM 27.5 mm.

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	W	H	L	PCM**	Pin	230 VAC*/450 VDC		Part number
						I_s A	I_{rms} (10 kHz) at 85° C A	
1.0 μ F	9	19	31.5	27.5	2	45	2.5	MKPF3Y41006A_____
1.5 "	11	21	31.5	27.5	2/4	70	3	MKPF3Y41506B_____
2.2 "	11	21	31.5	27.5	2/4	100	3.5	MKPF3Y42206B_____
3.3 "	13	24	31.5	27.5	2/4	150	5	MKPF3Y43306D_____
4.7 "	15	26	31.5	27.5	2/4	210	7.5	MKPF3Y44706F_____
6.8 "	17	29	31.5	27.5	2/4	300	8.5	MKPF3Y46806G_____
10 μ F	20	39.5	31.5	27.5	2/4	450	11.5	MKPF3Y51006J_____
	19	32	41.5	37.5	2/4	200	8	MKPF3Y51007F_____
12 "	19	32	41.5	37.5	2/4	240	10	MKPF3Y51207F_____
15 "	20	39.5	41.5	37.5	2/4	300	12	MKPF3Y51507G_____
20 "	24	45.5	41.5	37.5	2/4	400	14	MKPF3Y52007H_____
22 "	24	45.5	41.5	37.5	2/4	440	15	MKPF3Y52207H_____
25 "	31	46	41.5	37.5	2/4	500	17	MKPF3Y52507I_____
30 "	31	46	41.5	37.5	2/4	600	19	MKPF3Y53007I_____
	25	45	57	52.5	2/4	300	15	MKPF3Y53009D_____
35 "	35	50	41.5	37.5	2/4	700	20.5	MKPF3Y53507J_____
	25	45	57	52.5	2/4	350	15	MKPF3Y53509D_____
40 "	30	45	57	52.5	2/4	400	17.5	MKPF3Y54009E_____
45 "	30	45	57	52.5	2/4	450	18.5	MKPF3Y54509E_____
50 "	35	50	57	52.5	4	500	21	MKPF3Y55009F_____
55 "	35	50	57	52.5	4	550	22	MKPF3Y55509F_____
60 "	45	55	57	52.5	4	600	23	MKPF3Y56009H_____
65 "	45	55	57	52.5	4	650	25.5	MKPF3Y56509H_____
70 "	45	55	57	52.5	4	700	26	MKPF3Y57009H_____
75 "	45	65	57	52.5	4	750	27	MKPF3Y57509J_____

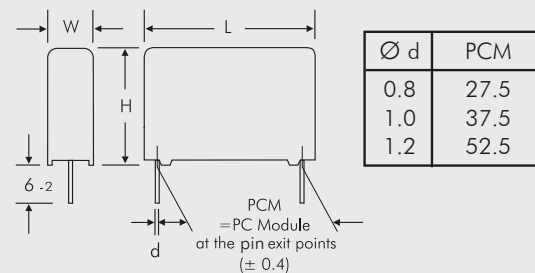
* AC voltages: $f \leq 100$ Hz

** PCM = Printed circuit module = pin spacing

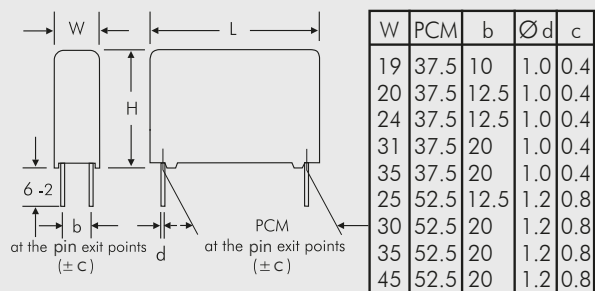
Dims. in mm.

Part number completion:	
Version code:	2-pin = 00
	4-pin = D4
Tolerance:	20 % = M
	10 % = K
	5 % = J
Packing:	bulk = S
Pin length:	6-2 = SD
Taped version see page 157.	

2-pin version



4-pin version



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Continuation

General Data

Capacitance	W	H	L	PCM**	Pin	275 VAC*/600 VDC		Part number
						I _s A	I _{rms} (10kHz) at 85° C A	
1.0 μF	9	19	31.5	27.5	2	55	2.5	MKPF1W41006A
1.5 "	11	21	31.5	27.5	2/4	80	3.5	MKPF1W41506B
2.2 "	13	24	31.5	27.5	2/4	120	5	MKPF1W42206D
3.3 "	15	26	31.5	27.5	2/4	180	5.5	MKPF1W43306F
4.7 "	17	34.5	31.5	27.5	2/4	260	8	MKPF1W44706I
6.8 "	20	39.5	31.5	27.5	2/4	370	10	MKPF1W46806J
10 μF	20	39.5	41.5	37.5	2/4	300	10	MKPF1W51007G
12 "	20	39.5	41.5	37.5	2/4	360	12	MKPF1W51207G
15 "	24	45.5	41.5	37.5	2/4	450	14	MKPF1W51507H
20 "	25	45	57	52.5	2/4	195	11	MKPF1W51509D
	31	46	41.5	37.5	2/4	600	16	MKPF1W52007I
22 "	25	45	57	52.5	2/4	260	12	MKPF1W52009D
	25	45	57	52.5	2/4	286	14	MKPF1W52209D
25 "	30	45	57	52.5	2/4	325	16	MKPF1W52509E
30 "	35	50	57	52.5	4	390	17	MKPF1W53009F
35 "	35	50	57	52.5	4	455	20	MKPF1W53509F
40 "	45	55	57	52.5	4	520	21	MKPF1W54009H
45 "	45	55	57	52.5	4	585	23	MKPF1W54509H
50 "	45	65	57	52.5	4	650	24	MKPF1W55009J

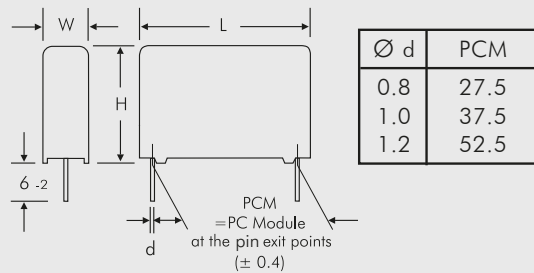
* AC voltages: $f \leq 100$ Hz

** PCM = Printed circuit module = pin spacing

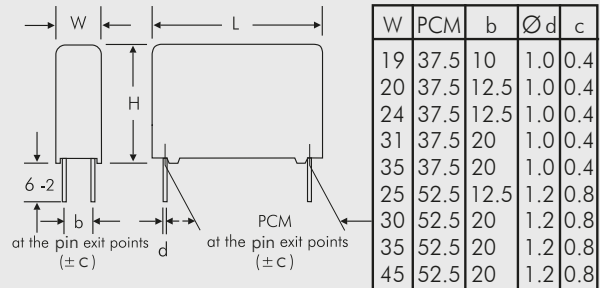
Dims. in mm.

Part number completion:	
Version code:	2-pin = 00 4-pin = D4
Tolerance:	20 % = M 10 % = K 5 % = J
Packing:	bulk = S
Pin length:	6-2 = SD
Taped version see page 157.	

2-pin version



4-pin version



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Continuation

General Data

Capacitance	W	H	L	PCM**	Pin	305 VAC*/630 VDC		Part number
						I_s A	I_{rms} (10 kHz) at 85° C A	
0.68 μ F	9	19	31.5	27.5	2	50	2	MKPCFAW36806A_____
1.0 μ F	11	21	31.5	27.5	2/4	68	3	MKPCFAW41006B_____
1.5 "	13	24	31.5	27.5	2/4	110	4	MKPCFAW41506D_____
2.2 "	15	26	31.5	27.5	2/4	150	5	MKPCFAW42206F_____
3.3 "	17	29	31.5	27.5	2/4	220	7	MKPCFAW43306G_____
4.7 "	20	39.5	31.5	27.5	2/4	320	9	MKPCFAW44706J_____
6.8 "	20	39.5	41.5	37.5	2/4	245	10	MKPCFAW46807G_____
10 μ F	24	45.5	41.5	37.5	2/4	350	12	MKPCFAW51007H_____
	25	45	57	52.5	2/4	150	10	MKPCFAW51009D_____
12 "	24	45.5	41.5	37.5	2/4	420	13	MKPCFAW51207H_____
15 "	31	46	41.5	37.5	2/4	525	15	MKPCFAW51507I_____
	25	45	57	52.5	2/4	225	13	MKPCFAW51509D_____
20 "	40	55	41.5	37.5	2/4	700	19	MKPCFAW52007K_____
	30	45	57	52.5	2/4	300	14	MKPCFAW52009E_____
22 "	35	50	57	52.5	4	330	16	MKPCFAW52209F_____
25 "	35	50	57	52.5	4	375	17	MKPCFAW52509F_____
30 "	45	55	57	52.5	4	450	21	MKPCFAW53009H_____
35 "	45	65	57	52.5	4	525	22	MKPCFAW53509J_____

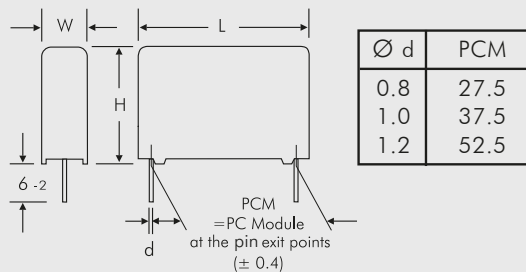
* AC voltages: $f \leq 100$ Hz

** PCM = Printed circuit module = pin spacing

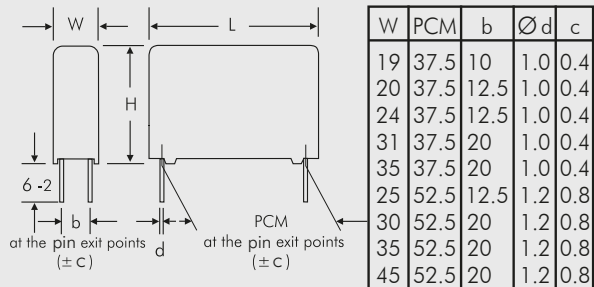
Dims. in mm.

Part number completion:	
Version code:	2-pin = 00 4-pin = D4
Tolerance:	20 % = M 10 % = K 5 % = J
Packing:	bulk = S
Pin length:	6-2 = SD
Taped version see page 157.	

2-pin version



4-pin version



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Continuation

General Data

Capacitance	W	H	L	PCM**	Pin	350 VAC*/700 VDC		Part number
						I _s A	I _{rms} (10kHz) at 85° C A	
0.68 µF	9	19	31.5	27.5	2	70	1.5	MKPFBW36806A_____
1.0 µF	11	21	31.5	27.5	2/4	100	3	MKPFBW41006B_____
1.5 "	13	24	31.5	27.5	2/4	150	4	MKPFBW41506D_____
2.2 "	15	26	31.5	27.5	2/4	220	5	MKPFBW42206F_____
3.3 "	17	29	31.5	27.5	2/4	330	7	MKPFBW43306G_____
4.7 "	20	39.5	31.5	27.5	2/4	470	11	MKPFBW44706J_____
6.8 "	20	39.5	41.5	37.5	2/4	340	10	MKPFBW46807G_____
10 µF	24	45.5	41.5	37.5	2/4	500	13	MKPFBW51007H_____
	25	45	57	52.5	2/4	250	11	MKPFBW51009D_____
12 "	24	45.5	41.5	37.5	2/4	600	14	MKPFBW51207H_____
15 "	31	46	41.5	37.5	2/4	750	16	MKPFBW51507I_____
	25	45	57	52.5	2/4	375	13	MKPFBW51509D_____
20 "	40	55	41.5	37.5	2/4	1000	18	MKPFBW52007K_____
	30	45	57	52.5	2/4	500	16	MKPFBW52009E_____
22 "	35	50	57	52.5	4	550	18	MKPFBW52209F_____
25 "	35	50	57	52.5	4	625	19	MKPFBW52509F_____
30 "	45	55	57	52.5	4	750	22	MKPFBW53009H_____
35 "	45	65	57	52.5	4	870	25	MKPFBW53509J_____

Capacitance	W	H	L	PCM**	Pin	440 VAC*/1000 VDC		Part number
						I _s A	I _{rms} (10kHz) at 85° C A	
0.68 µF	13	24	31.5	27.5	2/4	74.8	3	MKPF4W36806D_____
1.0 µF	13	24	31.5	27.5	2/4	110	4	MKPF4W41006D_____
1.5 "	17	29	31.5	27.5	2/4	165	5	MKPF4W41506G_____
2.2 "	20	39.5	31.5	27.5	2/4	240	6	MKPF4W42206J_____
3.3 "	20	39.5	41.5	37.5	2/4	230	7.5	MKPF4W43307G_____
4.7 "	24	45.5	41.5	37.5	2/4	330	8.5	MKPF4W44707H_____
6.8 "	31	46	41.5	37.5	2/4	480	11.5	MKPF4W46807I_____
10 µF	30	45	57	52.5	2/4	400	16	MKPF4W51009E_____
12 "	35	50	57	52.5	4	480	17	MKPF4W51209F_____

* AC voltages: $f \leq 100$ Hz

** PCM = Printed circuit module = pin spacing

Dims. in mm.

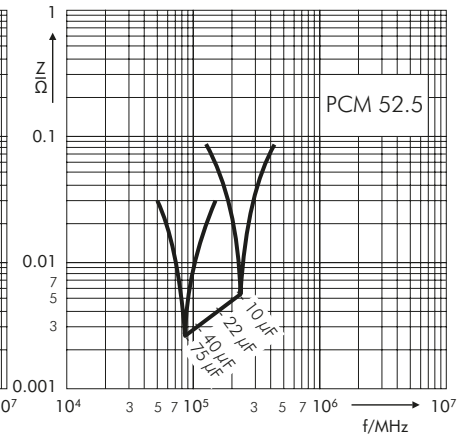
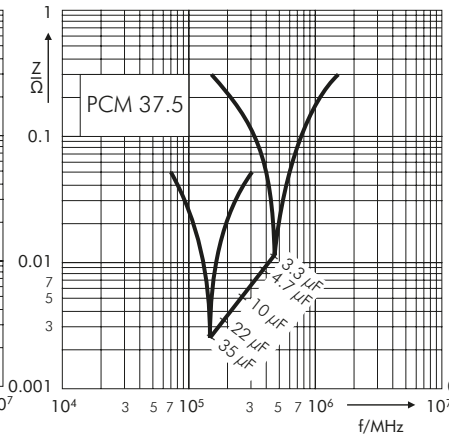
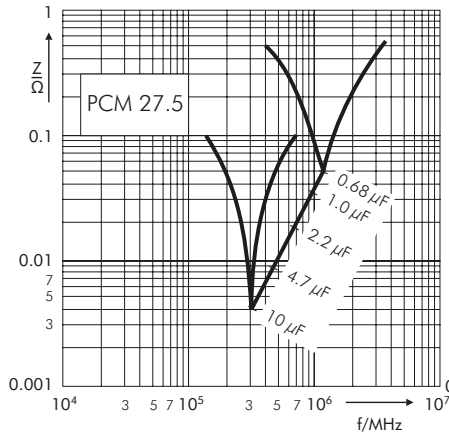
Part number completion:	
Version code:	2-pin = 00 4-pin = D4
Tolerance:	20 % = M 10 % = K 5 % = J
Packing:	bulk = S
Pin length:	6-2 = SD
Taped version see page 157.	

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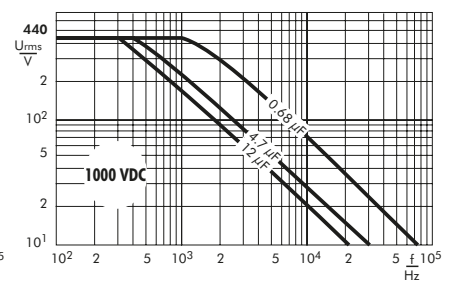
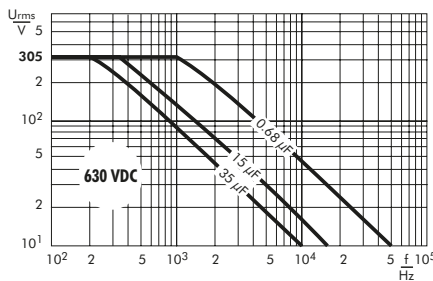
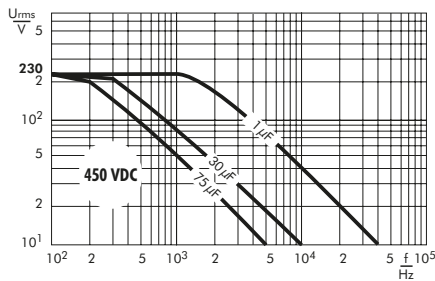
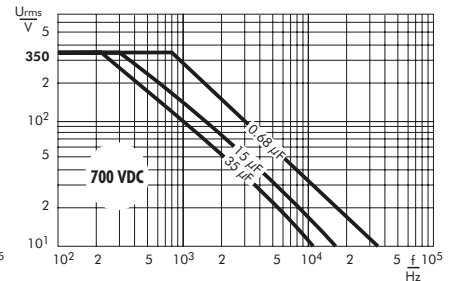
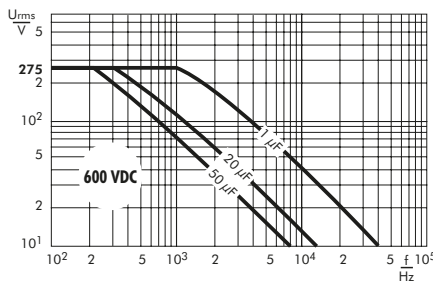
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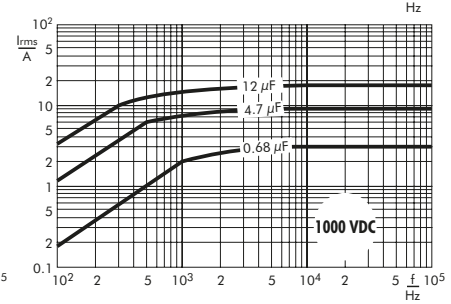
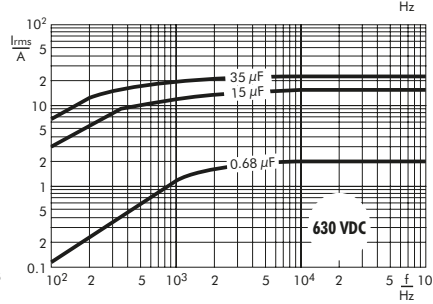
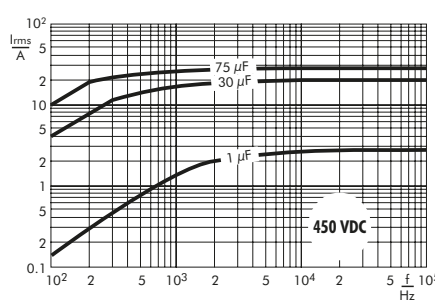
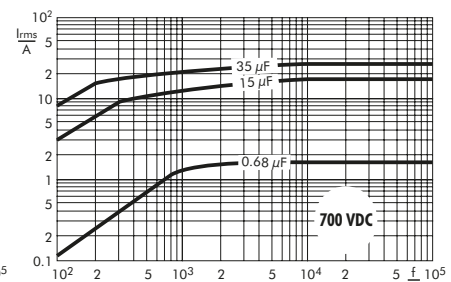
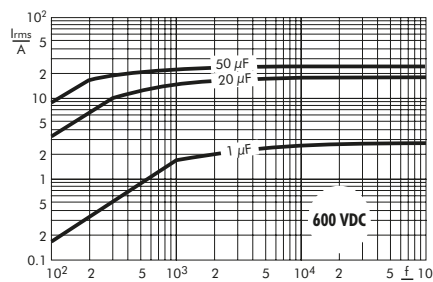
Impedance change with frequency
(general guide).



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



Permissible AC current 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: $T_{max.} \leq 110^{\circ}C$

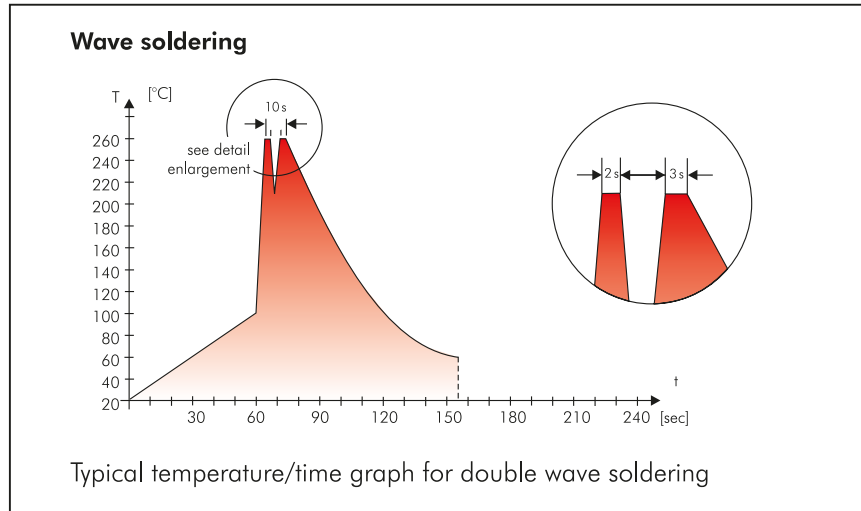
Single wave soldering

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

Double wave soldering

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

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 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 2015/863/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 re-frained from using such substances since years already.



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

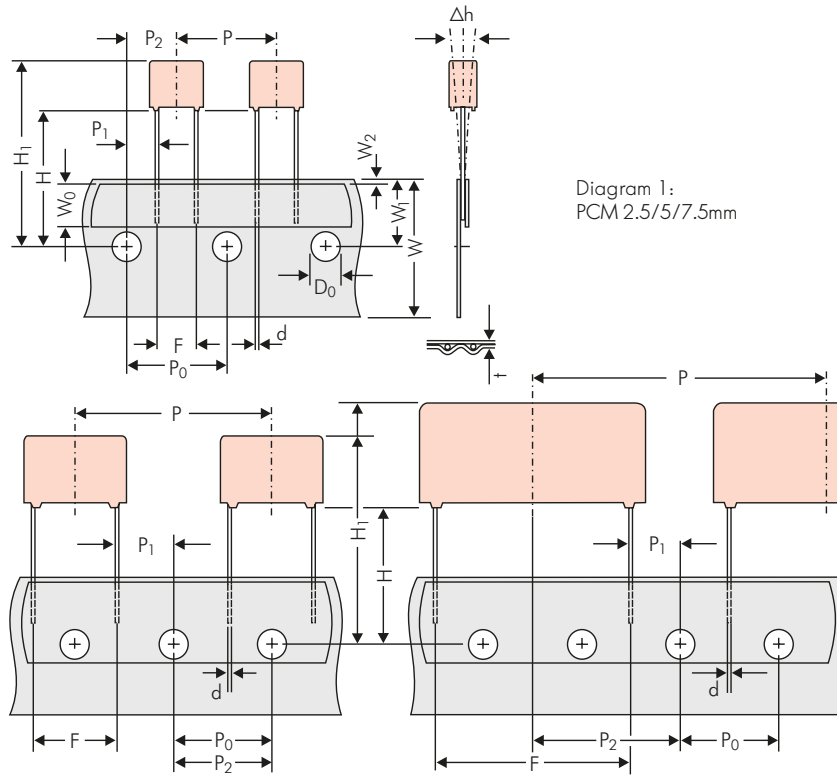


Diagram 1:
PCM 2.5/5/7.5mm

Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5*mm

*PCM 27.5 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 error max. 1.0 mm/20 pitch	12.7 ±0.3 error max. 1.0 mm/20 pitch	12.7 ±0.3 error max. 1.0 mm/20 pitch	12.7 ±0.3 error max. 1.0 mm/20 pitch	12.7 ±0.3 error max. 1.0 mm/20 pitch	12.7 ±0.3 error max. 1.0 mm/20 pitch	12.7 ±0.3 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 158)	▲	ROLL/AMMO			AMMO			
		REEL Ø 360 max. Ø 30 ±1	B 52 ±2 58 ±2	depending on comp. dimensions	REEL Ø 360 max. Ø 30 ±1	B 52 ±2 58 ±2 66 ±2	or REEL Ø 500 max. Ø 25 ±1	B 54 ±2 60 ±2 68 ±2
Unit		see details page 159.						

▲ When ordering please specify dimension H and required packaging type.

Dims in mm.

• Diameter of pins see General Data.

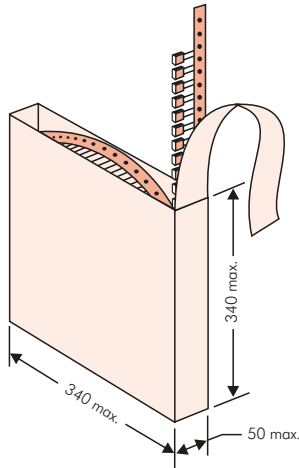
Please clarify customer-specific deviations with the manufacturer.

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

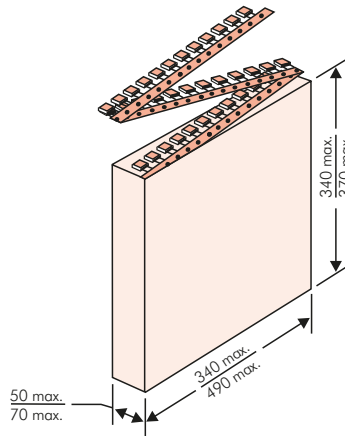
Position of components according to PCM 7.5 (sketch 1). P₀ = 12.7 or 15.0 is possible

Types of Tape Packaging of Capacitors for Automatic Radial Insertion

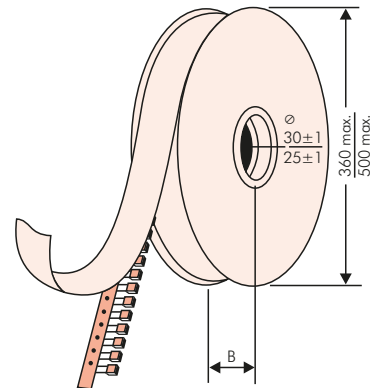
■ ROLL Packaging



■ AMMO Packaging



■ REEL Packaging



BAR CODE (Labelling)

Labelling of package units in plain text and with alphanumeric 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

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
	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 27.5 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	
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	9	13	3C	3000						900		1600				1450	
	4	9.5	13	3D	3000						900		1600				1400	
	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	
	8	12	13	3I	2000								400		800		740	
15 mm	5	11	18	4B	2400						600		1200				1150	
	6	12.5	18	4C	2000						500		1000				1000	
	7	14	18	4D	1600						450		900				850	
	8	15	18	4F	1200						400		800				740	
	9	14	18	4H	1200								350		700		650	
	9	16	18	4J	900								350		700		650	
	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	
	8.5	18.5	26.5	5F	500								480				450	
	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		
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					
	15	26	31.5	6F	324*								270					
	17	29	31.5	6G	198*													
	17	34.5	31.5	6I	198*													
	20	39.5	31.5	6J	162*													

* for 2-inch transport pitches.

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

Rights reserved to amend design data without prior notification.



Packing Quantities for Capacitors with Radial Pins in PCM 37.5 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		
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*	-	-	-	-	-	-	-	-	-	-	-	

* TPS (Tray-Packing-System). Plate versions may have different packing units.

**For Snubber capacitors in 2-pin version the PCM is changing to 38.5 respective 49.5 mm. Samples and pre-production needs on request.

Rights reserved to amend design data without prior notification.

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			

<p>Type description:</p> <p>SMD-PET = SMDT SMD-PEN = SMDN SMD-PPS = SMDI FKP 02 = FKPO MKS 02 = MKSO 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 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>Rated voltage:</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 230 VAC = 3Y 275 VAC = 1W 300 VAC = 2W 305 VAC = AW 350 VAC = BW 440 VAC = 4W ...</p>	<p>Capacitance:</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>Size:</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 = YA 15.3x13.7x7 Size 6054 = YA 2.5x7x4.6 PCM2.5 = 0B 3x7.5x4.6 PCM2.5 = 0C 2.5x6.5x7.2 PCM5 = 1A 3x7.5x7.2 PCM5 = 1B 2.5x7x10 PCM7.5 = 2A 3x8.5x10 PCM7.5 = 2B 3x9x13 PCM10 = 3A 4x9x13 PCM10 = 3C 5x11x18 PCM15 = 4B 6x12.5x18 PCM15 = 4C 5x14x26.5 PCM22.5 = 5A 6x15x26.5 PCM22.5 = 5B 9x19x31.5 PCM27.5 = 6A 11x21x31.5 PCM27.5 = 6B 9x19x41.5 PCM37.5 = 7A 11x22x41.5 PCM37.5 = 7B 19x31x56 PCM 48.5 = 8D 25x45x57 PCM 52.5 = 9D ...</p>	<p>Tolerance:</p> <p>±20% = M ±10% = K ±5% = J ±2.5% = H ±1% = E ...</p> <p>Packing:</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>Version code:</p> <p>Standard = 00 Version A1 = 1A Version A1.1.1 = 1B Version A2 = 2A ...</p>	<p>Pin length (untaped)</p> <p>3.5 ±0.5 = C9 6 -2 = SD 16 ±1 = P1 ...</p> <p>Pin length (taped)</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.