



EN: This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at www.hestore.hu.

Metallized Polyester (PET) Capacitors in PCM 5 mm

Special Features

- High volume/capacitance ratio
- Self-healing
- According to RoHS 2002/95/EC

Typical Applications

For general DC-applications e.g.

- By-pass
- Blocking
- Coupling and decoupling
- Timing

Construction

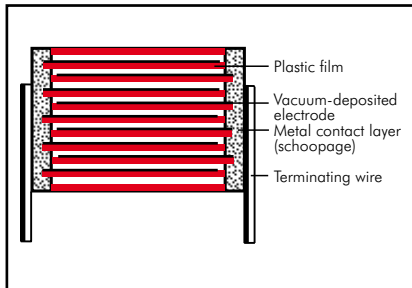
Dielectric:

Polyethylene-terephthalate (PET) 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: Silver/White.

Epoxy resin seal: Red

Electrical Data

Capacitance range:

1000 pF to 10 μ F (E12-values on request)

Rated voltages:

16 VDC, 50 VDC, 63 VDC, 100 VDC, 250 VDC, 400 VDC, 630 VDC

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$, $\pm 5\%$

Operating temperature range:

-55°C to $+100^{\circ}\text{C}$

Climatic test category:

55/100/21 in accordance with IEC

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

Test specifications:

In accordance with IEC 60384-2 and EN 130400

Test voltage: $1.6 U_r$, 2 sec.

Voltage derating:

A voltage derating factor of 1.25 % per K must be applied from $+85^{\circ}\text{C}$ for DC voltages and from $+75^{\circ}\text{C}$ for AC voltages

Reliability:

Operational life > 300 000 hours

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

U_r	U_{test}	$C \leq 0.33 \mu\text{F}$	$0.33 \mu\text{F} < C \leq 10 \mu\text{F}$
16 VDC	10V	$\geq 3.75 \times 10^3 \text{ M}\Omega$ (mean value: $1 \times 10^4 \text{ M}\Omega$)	$\geq 1000 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 3000 sec)
50 VDC	10V	$\geq 5 \times 10^3 \text{ M}\Omega$ (mean value: $3 \times 10^4 \text{ M}\Omega$)	$\geq 1000 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 3000 sec)
63 VDC	50V	$\geq 1 \times 10^4 \text{ M}\Omega$ (mean value: $5 \times 10^4 \text{ M}\Omega$)	$\geq 1250 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 3000 sec)
$\geq 100 \text{ VDC}$	100V	$\geq 1.5 \times 10^4 \text{ M}\Omega$ (mean value: $1 \times 10^5 \text{ M}\Omega$)	$\geq 3000 \text{ sec (M}\Omega \times \mu\text{F)}$ (mean value: 6000 sec)

Measuring time: 1 min.

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

at f	$C \leq 0.1 \mu\text{F}$	$0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$	$C > 1.0 \mu\text{F}$
1 kHz	$\leq 8 \times 10^{-3}$	$\leq 8 \times 10^{-3}$	$\leq 10 \times 10^{-3}$
10 kHz	$\leq 15 \times 10^{-3}$	$\leq 15 \times 10^{-3}$	—
100 kHz	$\leq 30 \times 10^{-3}$	—	—

Maximum pulse rise time: for pulses equal to the rated voltage

Capacitance pF/ μF	Pulse rise time V/ μsec max. operation/test						
	16 VDC	50 VDC	63 VDC	100 VDC	250 VDC	400 VDC	630 VDC
1000 ... 6800	—	—	—	—	—	—	110/1100
0.01 ... 0.022	—	—	35/350	35/350	50/500	80/800	110/1100
0.033 ... 0.068	—	—	20/200	25/250	50/500	80/800	90/900
0.1 ... 0.47	—	10/100	15/150	20/200	50/500	80/800	—
0.68 ... 1.0	—	8/80	12/120	15/150	25/250	—	—
1.5 ... 3.3	—	8/80	7.5/75	10/100	—	—	—
4.7	4/40	5/50	5/50	—	—	—	—
6.8	3/30	3/30	3/30	—	—	—	—
10	3/30	2.5/25	—	—	—	—	—

Mechanical Tests

Pull test on leads:

10 N in direction of leads 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

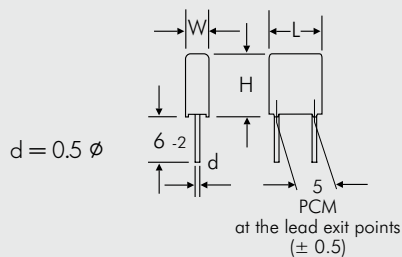
Capacitance	16 VDC/10 VAC*					50 VDC/30 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
0.33 μ F						2.5	6.5	7.2	5	MKS2B033301A00_____
0.47 "						3	7.5	7.2	5	MKS2B034701B00_____
0.68 "						3.5	8.5	7.2	5	MKS2B036801C00_____
1.0 μ F						3.5	8.5	7.2	5	MKS2B041001C00_____
1.5 "						4.5	9.5	7.2	5	MKS2B041501E00_____
2.2 "						5	10	7.2	5	MKS2B042201F00_____
3.3 "						5.5	11.5	7.2	5	MKS2B043301H00_____
4.7 "	5.5	11.5	7.2	5	MKS2A044701H00_____	7.2	13	7.2	5	MKS2B044701K00_____
6.8 "	7.2	13	7.2	5	MKS2A046801K00_____	8.5	14	7.2	5	MKS2B046801M00_____
10 μ F	8.5	14	7.2	5	MKS2A051001M00_____	11	16	7.2	5	MKS2B051001N00_____

Capacitance	63 VDC/40 VAC*					100 VDC/63 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
0.01 μ F	2.5	6.5	7.2	5	MKS2C021001A00_____	2.5	6.5	7.2	5	MKS2D021001A00_____
0.015 "	2.5	6.5	7.2	5	MKS2C021501A00_____	2.5	6.5	7.2	5	MKS2D021501A00_____
0.022 "	2.5	6.5	7.2	5	MKS2C022201A00_____	2.5	6.5	7.2	5	MKS2D022201A00_____
0.033 "	2.5	6.5	7.2	5	MKS2C023301A00_____	2.5	6.5	7.2	5	MKS2D023301A00_____
0.047 "	2.5	6.5	7.2	5	MKS2C024701A00_____	2.5	6.5	7.2	5	MKS2D024701A00_____
0.068 "	2.5	6.5	7.2	5	MKS2C026801A00_____	2.5	6.5	7.2	5	MKS2D026801A00_____
0.1 μ F	2.5	6.5	7.2	5	MKS2C031001A00_____	2.5	6.5	7.2	5	MKS2D031001A00_____
0.15 "	2.5	6.5	7.2	5	MKS2C031501A00_____	3.5	8.5	7.2	5	MKS2D031501C00_____
0.22 "	3	7.5	7.2	5	MKS2C032201B00_____	3.5	8.5	7.2	5	MKS2D032201C00_____
0.33 "	3.5	8.5	7.2	5	MKS2C033301C00_____	4.5	9.5	7.2	5	MKS2D033301E00_____
0.47 "	3.5	8.5	7.2	5	MKS2C034701C00_____	4.5	9.5	7.2	5	MKS2D034701E00_____
0.68 "	4.5	9.5	7.2	5	MKS2C036801E00_____	5	10	7.2	5	MKS2D036801F00_____
1.0 μ F	5	10	7.2	5	MKS2C041001F00_____	7.2	13	7.2	5	MKS2D041001K00_____
1.5 "	5.5	11.5	7.2	5	MKS2C041501H00_____	8.5	14	7.2	5	MKS2D041501M00_____
2.2 "	7.2	13	7.2	5	MKS2C042201K00_____	11	16	7.2	5	MKS2D042201N00_____
3.3 "	7.2	13	7.2	5	MKS2C043301K00_____					
4.7 "	8.5	14	7.2	5	MKS2C044701M00_____					
6.8 "	11	16	7.2	5	MKS2C046801N00_____					

* AC voltage: $f = 50 \text{ Hz}$; $1.4 \times U_{\text{rms}} + U_{\text{DC}} \leq U_r$

** PCM = Printed circuit module = lead spacing.

Dims. in mm.



Part number completion:

Tolerance: 20 % = M

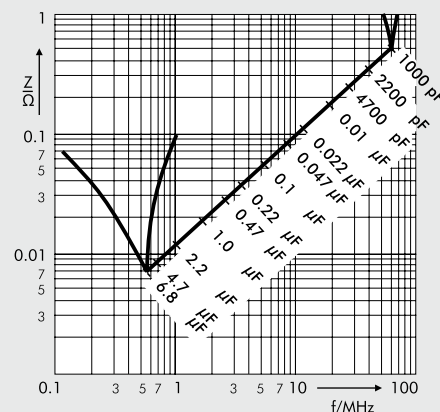
10 % = K

5 % = J

Packing: bulk = S

Lead length: 6-2 = SD

Taped version see page 140.



Impedance change with frequency (general guide).

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Continuation

General Data

Capacitance	250 VDC/160 VAC*					400 VDC/200 VAC*				
	W	H	L	PCM**	Part number	W	H	L	PCM**	Part number
0.01 μF	2.5	6.5	7.2	5	MKS2F021001A00_____	2.5	6.5	7.2	5	MKS2G021001A00_____
0.015 "	2.5	6.5	7.2	5	MKS2F021501A00_____	2.5	6.5	7.2	5	MKS2G021501A00_____
0.022 "	2.5	6.5	7.2	5	MKS2F022201A00_____	3.5	8.5	7.2	5	MKS2G022201C00_____
0.033 "	3.5	8.5	7.2	5	MKS2F023301C00_____	4.5	9.5	7.2	5	MKS2G023301E00_____
0.047 "	3.5	8.5	7.2	5	MKS2F024701C00_____	4.5	9.5	7.2	5	MKS2G024701E00_____
0.068 "	3.5	8.5	7.2	5	MKS2F026801C00_____	5.5	11.5	7.2	5	MKS2G026801H00_____
0.1 μF	4.5	9.5	7.2	5	MKS2F031001E00_____	7.2	13	7.2	5	MKS2G031001K00_____
0.15 "	5	10	7.2	5	MKS2F031501F00_____	8.5	14	7.2	5	MKS2G031501M00_____
0.22 "	5.5	11.5	7.2	5	MKS2F032201H00_____	11	16	7.2	5	MKS2G032201N00_____
0.33 "	7.2	13	7.2	5	MKS2F033301K00_____					
0.47 "	8.5	14	7.2	5	MKS2F034701M00_____					
0.68 "	11	16	7.2	5	MKS2F036801N00_____					

Capacitance	630 VDC/220 VAC*				
	W	H	L	PCM**	Part number
1000 pF	3	7.5	7.2	5	MKS2J011001B00_____
1500 "	3	7.5	7.2	5	MKS2J011501B00_____
2200 "	3	7.5	7.2	5	MKS2J012201B00_____
3300 "	3	7.5	7.2	5	MKS2J013301B00_____
4700 "	3.5	8.5	7.2	5	MKS2J014701C00_____
6800 "	4.5	9.5	7.2	5	MKS2J016801E00_____
0.01 μF	5.5	11.5	7.2	5	MKS2J021001H00_____
0.015 "	7.2	13	7.2	5	MKS2J021501K00_____
0.022 "	7.2	13	7.2	5	MKS2J022201K00_____
0.033 "	7.2	13	7.2	5	MKS2J023301K00_____
0.047 "	8.5	14	7.2	5	MKS2J024701M00_____

The values of the WIMA MKM 2 range according to the main catalogue 2009 are still available on request.

Part number completion:

Tolerance: 20 % = M
10 % = K
5 % = J
Packing: bulk = S
Lead length: 6-2 = SD
Taped version see page 140.

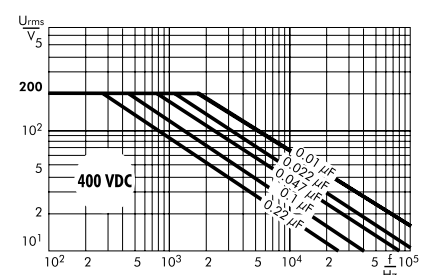
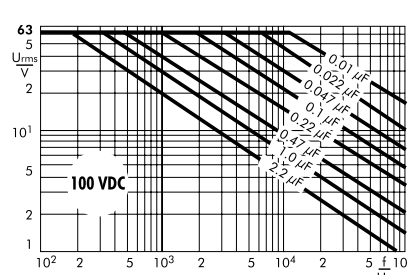
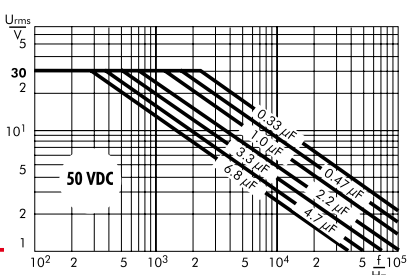
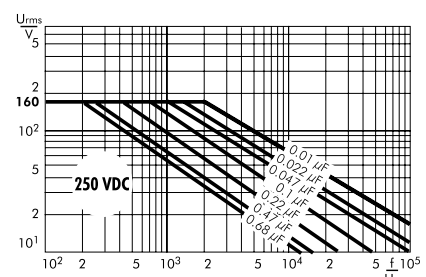
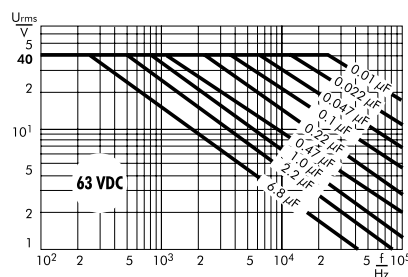
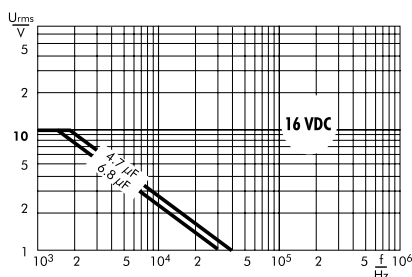
* AC voltage: $f = 50 \text{ Hz}$; $1.4 \times U_{\text{rms}} + \text{UDC} \leq U_r$

** PCM = Printed circuit module = lead spacing.

Dims. in mm.

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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

A preheating of through-hole WIMA capacitors is allowed for temperatures $T_{\max} < 100^{\circ}\text{C}$.
In practice a preheating duration of $t < 5$ min. has been proven to be best.

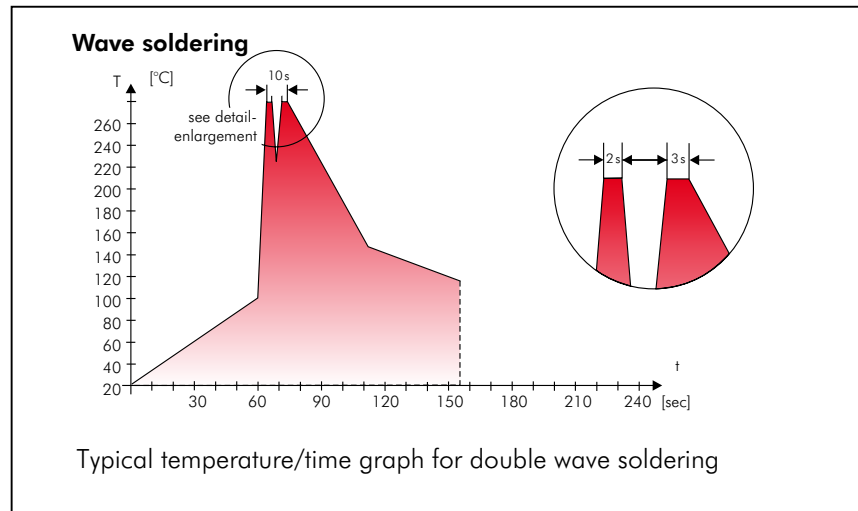
Single wave soldering

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

Double wave soldering

Soldering bath temperature: $T < 260^{\circ}\text{C}$
Immersion time: $2 \times t < 3$ 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 9001:2000 Certification

ISO 9001:2000 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2000 of our factories by the VDE inspectorate certifies that organisation, equipment and monitoring of quality assurance in our factories correspond to internationally recognized standards.

WIMA WPCS

The WIMA Process Control System (WPCS) is a quality surveillance and optimization system developed by WIMA. WPCS is a major part of the quality-oriented WIMA production. Points of application of WPCS during production process:

- incoming material inspection
- metallization
- film inspection
- schoopage
- pre-healing
- lead attachment
- cast resin preparation/encapsulation
- 100% final inspection
- AQL check

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 | – PBB/PBDE |
| – PCB | – Arsenic |
| – CFC | – Cadmium |
| – Hydrocarbon chloride | – Mercury |
| – Chromium 6+ | – etc. |

We merely use pure, recyclable materials for packing our components, such as:

- carton
- cardboard
- adhesive tape made of paper
- polystyrene

We almost completely refrain from using packing materials such as:

- foamed polystyrene (Styropor®)
- adhesive tapes made of plastic
- metal clips

RoHS Compliance

According to the RoHS Directive 2002/95/EC 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 2002/95/EG

WIMA capacitors are lead free
in accordance with RoHS 2002/95/EC

Tape for lead-free WIMA capacitors

DIN EN ISO 14001:2005

WIMA's environmental management has been established in accordance with the guidelines of DIN EN ISO 14001:2005. The certification has been granted in June 2006.

Typical Dimensions for Taping Configuration

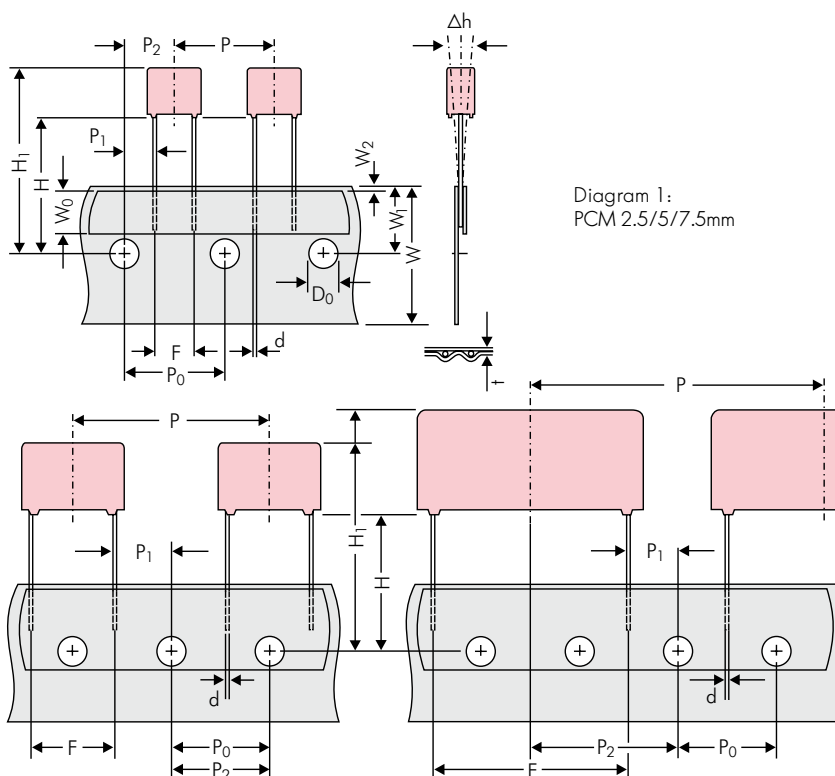


Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5*mm

*PCM 27.5 tapping possible with two feed holes between components

Designation	Symbol	Dimensions for Radial Taping						
		PCM 2.5 tapping	PCM 5 tapping	PCM 7.5 tapping	PCM 10 tapping*	PCM 15 tapping*	PCM 22.5 tapping	PCM 27.5 tapping
Carrier tape width	W	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5	18.0 ±0.5
Hold-down tape width	W ₀	6.0 for hot-sealing adhesive tape	6.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape
Hole position	W ₁	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5	9.0 ±0.5
Hold-down tape position	W ₂	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.
Feed hole diameter	D ₀	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2	4.0 ±0.2
Pitch of component	P	12.7 ±1.0	12.7 ±1.0	12.7 ±1.0	25.4 ±1.0	25.4 ±1.0	38.1 ±1.5	38.1 ±1.5 or 50.8 ±1.5
Feed hole pitch	P ₀	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 ±0.3 cumulative pitch error max. 1.0 mm/20 pitch
Feed hole centre to lead	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
Lead 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
Lead diameter	d	0.4 ±0.05	0.5 ±0.05	0.5 ±0.05 or 0.6 ^{+0.06} _{-0.05}	0.5 ±0.05 or 0.6 ^{+0.06} _{-0.05}	0.8 ^{+0.08} _{-0.05}	0.8 ^{+0.08} _{-0.05}	0.8 ^{+0.08} _{-0.05}
Component alignment	Δh	± 2.0 max.	± 2.0 max.	± 3.0 max.	± 3.0 max.	± 3.0 max.	± 3.0 max.	± 3.0 max.
Total tape thickness	t	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2	0.7 ±0.2
Package (see also page 141)		ROLL/AMMO			AMMO			
		REEL ø 360 max. ø 30 ±1	B 52 ±2 58 ±2 } depending on comp. dimensions		REEL ø 360 max. ø 30 ±1	52 ±2 B 58 ±2 or 66 ±2	REEL ø 500 max. ø 25 ±1	54 ±2 B 60 ±2 68 ±2 } depending on PCM and component dimensions
Unit		see details page 143.						

Dims in mm.

* Diameter of leads see General Data.

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

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

Please clarify customer-specific deviations with the manufacturer.



Packing Quantities for Bulk Capacitors and TPS*

PCM	Size				pcs. per packaging unit bulk			pcs. per packaging unit/TPS*	
	W	H	L	Codes	Mini	Standard	Maxi	Mini	Standard
2.5 mm	2.5	7	4.6	0B	1000	5000	10 000	–	–
	3	7.5	4.6	0C	1000	5000	10 000	–	–
	3.8	8.5	4.6	0D	1000	5000	10 000	–	–
	4.6	9	4.6	0E	1000	5000	10 000	–	–
	5.5	10	4.6	0F	1000	5000	10 000	–	–
5 mm	2.5	6.5	7.2	1A	2000	5000	10 000	–	–
	3	7.5	7.2	1B	1000	5000	–	–	–
	3.5	8.5	7.2	1C	1000	5000	–	–	–
	4.5	6	7.2	1D	1000	6000	–	–	–
	4.5	9.5	7.2	1E	1000	4000	–	–	–
	5	10	7.2	1F	1000	3500	–	–	–
	5.5	7	7.2	1G	1000	4000	–	–	–
	5.5	11.5	7.2	1H	500	2500	–	–	–
	6.5	8	7.2	1I	1000	2500	–	–	–
	7.2	8.5	7.2	1J	500	2500	–	–	–
	7.2	13	7.2	1K	500	2000	–	–	–
	8.5	10	7.2	1L	500	2000	–	–	–
	8.5	14	7.2	1M	500	1500	–	–	–
	11	16	7.2	1N	250	1000	–	–	–
7.5 mm	2.5	7	10	2A	1000	5000	–	–	–
	3	8.5	10	2B	1000	5000	–	–	–
	4	9	10	2C	1000	4000	–	–	–
	4.5	9.5	10.3	2D	1000	3500	–	–	–
	5	10.5	10.3	2E	1000	3000	–	–	–
	5.7	12.5	10.3	2F	500	2000	–	–	–
	7.2	12.5	10.3	2G	500	1500	–	–	–
10 mm	3	9	13	3A	1000	3000	–	–	–
	4	8.5	13.5	3B	500	3000	–	–	–
	4	9	13	3C	1000	3000	–	–	–
	4	9.5	13	3D	1000	3000	–	–	–
	5	10	13.5	3E	500	2000	–	–	–
	5	11	13	3F	1000	3000	–	–	–
	6	12	13	3G	800	2400	–	–	–
	6	12.5	13	3H	800	2400	–	–	–
15 mm	8	12	13	3I	500	2000	–	–	–
	5	11	18	4B	800	2400	–	–	–
	5	13	19	4C	200	1000	–	–	–
	6	12.5	18	4D	500	2000	–	–	–
	6	14	19	4E	250	1000	–	–	–
	7	14	18	4F	400	1600	–	–	–
	7	15	19	4G	250	1000	–	–	–
	8	15	18	4H	400	1200	–	–	–
	8	17	19	4I	100	500	–	–	–
	9	14	18	4J	400	1200	–	–	–
	9	16	18	4K	300	900	–	–	–
22.5 mm	10	18	19	4L	100	500	–	–	–
	11	14	18	4M	300	1000	–	–	–
	5	14	26.5	5A	300	1200	–	–	–
	6	15	26.5	5B	250	1000	–	–	–
	7	16.5	26.5	5C	190	760	–	–	–
	8	20	28	5D	–	–	–	115	690
	8.5	18.5	26.5	5E	–	–	–	220	880
	10	22	28	5F	–	–	–	90	540
27.5 mm	10.5	19	26.5	5G	–	–	–	170	680
	10.5	20.5	26.5	5H	–	–	–	170	680
	11	21	26.5	5I	–	–	–	170	680
	12	24	28	5J	–	–	–	75	450
	9	19	31.5	6A	–	–	–	160	640
	11	21	31.5	6B	–	–	–	136	544
	13	24	31.5	6C	–	–	–	112	448
	13	25	33	6D	–	–	–	56	336
37.5 mm	15	26	31.5	6E	–	–	–	96	384
	15	26	33	6F	–	–	–	48	288
	17	29	31.5	6G	–	–	–	88	176
	17	34.5	31.5	6H	–	–	–	88	176
	20	32	33	6I	–	–	–	36	216
	20	39.5	31.5	6J	–	–	–	36	144
	9	19	41.5	7A	–	–	–	60	480
	11	22	41.5	7B	–	–	–	51	408
47.5 mm	13	24	41.5	7C	–	–	–	84	252
	15	26	41.5	7D	–	–	–	72	144
	17	29	41.5	7E	–	–	–	66	132
	19	32	41.5	7F	–	–	–	54	108
	20	39.5	41.5	7G	–	–	–	27	108
	24	45.5	41.5	7H	–	–	–	21	84

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Samples and pre-production needs on request.

■ Moulded versions.

* Tray-Packing-System

Packing Units for Taped Capacitors with Radial Leads

PCM	Size				ROLL		REEL				AMMO			
					H16.5	H18.5	ø 360		ø 500		340 × 340		490 × 370	
	W	H	L	Codes	N	O	F	I	H	J	A	C	B	D
2.5 mm	2.5	7	4.6	0B	2200		2500		–		2800		–	
	3	7.5	4.6	0C	2000		2300		–		2300		–	
	3.8	8.5	4.6	0D	1500		1800		–		1800		–	
	4.6	9	4.6	0E	1200		1500		–		1500		–	
	5.5	10	4.6	0F	900		1200		–		1200		–	
5 mm	2.5	6.5	7.2	1A	2200		2500		–		2800		–	
	3	7.5	7.2	1B	2000		2300		–		2300		–	
	3.5	8.5	7.2	1C	1600		2000		–		2000		–	
	4.5	6	7.2	1D	1300		1500		–		1500		–	
	4.5	9.5	7.2	1E	1300		1500		–		1500		–	
	5	10	7.2	1F	1100		1400		–		1400		–	
	5.5	7	7.2	1G	1000		1200		–		1200		–	
	5.5	11.5	7.2	1H	1000		1200		–		1200		–	
	6.5	8	7.2	1I	800		1000		–		1000		–	
	7.2	8.5	7.2	1J	700		1000		–		1000		–	
	7.2	13	7.2	1K	700		950		–		1000		–	
	8.5	10	7.2	1L	600		800		–		800		–	
	8.5	14	7.2	1M	600		800		–		800		–	
	11	16	7.2	1N	500		700		–		700		–	
7.5 mm	2.5	7	10	2A	–		2500		4400		2500		–	
	3	8.5	10	2B	–		2200		4300		2300		4150	
	4	9	10	2C	–		1700		3200		1700		3100	
	4.5	9.5	10.3	2D	–		1500		2900		1400		2800	
	5	10.5	10.3	2E	–		1300		2500		1300		–	
	5.7	12.5	10.3	2F	–		1000		2200		1100		–	
	7.2	12.5	10.3	2G	–		900		1800		1000		–	
10 mm	3	9	13	3A	–		1100		2200		–		1900	
	4	8.5	13.5	FA	–		900		1600		–		1450	
	4	9	13	3C	–		900		1600		–		1450	
	4	9.5	13	3D	–		900		1600		–		1400	
	5	10	13.5	FB	–		700		1300		–		1200	
	5	11	13	3F	–		700		1300		–		1200	
	6	12	13	3G	–		550		1100		–		1000	
	6	12.5	13	3H	–		550		1100		–		1000	
15 mm	8	12	13	3I	–		400		800		–		740	
	5	11	18	4B	–		600		1200		–		1150	
	5	13	19	FC	–		600		1200		–		1200	
	6	12.5	18	4C	–		500		1000		–		1000	
	6	14	19	FD	–		500		1000		–		1000	
	7	14	18	4D	–		450		900		–		850	
	7	15	19	FE	–		450		900		–		850	
	8	15	18	4H	–		400		800		–		740	
	8	17	19	FF	–		400		800		–		740	
	9	14	18	4F	–		350		700		–		650	
	9	16	18	4J	–		350		700		–		650	
22.5 mm	10	18	19	FG	–		300		650		–		590	
	11	14	18	4M	–		300		600		–		540	
	5	14	26.5	5A	–		–		800		–		770	
	6	15	26.5	5B	–		–		700		–		640	
	7	16.5	26.5	5D	–		–		600		–		550	
	8	20	28	FH	–		–		500		–		480	
	8.5	18.5	26.5	5F	–		–		480		–		450	
27.5 mm	10.5	22	28	FI	–		–		420		–		380	
	10.5	19	26.5	5G	–		–		400		–		360	
	10.5	20.5	26.5	5H	–		–		400		–		360	
	11	21	26.5	5I	–		–		380		–		350	
	12	24	28	FJ	–		–		350		–		310	
	9	19	31.5	6A	–		–		460/340*		–		420	
	11	21	31.5	6B	–		–		380/280*		–		350	
27.5 mm	13	24	31.5	6D	–		–		300		–		290	
	15	26	31.5	6F	–		–		270		–		250	

* for 2-inch transport pitches.

Samples and pre-production needs 1 packing unit minimum.

■ Moulded versions.

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WIMA Part Number System

A WIMA part number consists of 18 digits and is composed as follows:

Field 1 - 4: Type description

Field 5 - 6: Rated voltage

Field 7 - 10: Capacitance

Field 11 - 12: Size and PCM

Field 13 - 14: Special features (e.g. Snubber versions)

Field 15: Capacitance tolerance

Field 16: Packing

Field 17 - 18: Lead 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				2.5×6.5×7.2		-		20%	bulk	6 -2	
Type description:				Rated voltage:		Capacitance:				Size:				Tolerance:			
SMD-PET = SMDT				16 VDC = A0		22 pF = 0022				4.8×3.3×3 Size 1812 = X1				20% = M			
SMD-PEN = SMDN				2.5 VDC = A1		47 pF = 0047				4.8×3.3×4 Size 1812 = X2				10% = K			
SMD-PPS = SMDI				4 VDC = A2		100 pF = 0100				5.7×5.1×3.5 Size 2220 = Y1				5% = J			
FKP 02 = FKPO				14 VDC = A3		150 pF = 0150				5.7×5.1×4.5 Size 2220 = Y2				2.5% = H			
MKS 02 = MKSO				28 VDC = A4		220 pF = 0220				7.2×6.1×3 Size 2824 = T1				1% = E			
FKS 2 = FKS2				40 VDC = A5		330 pF = 0330				7.2×6.1×5 Size 2824 = T2				...			
FKM 2 = FKM2				5 VDC = A6		470 pF = 0470				10.2×7.6×5 Size 4030 = K1				Packing:			
FKP 2 = FKP2				50 VDC = B0		680 pF = 0680				12.7×10.2×6 Size 5040 = V1							
MKS 2 = MKS2				63 VDC = C0		1000 pF = 1100				15.3×13.7×7 Size 6054 = Q1				AMMO H16.5 340×340 = A			
MKP 2 = MKP2				100 VDC = D0		1500 pF = 1150				2.5×7×4.6 PCM 2.5 = 0B				AMMO H16.5 490×370 = B			
MKI 2 = MKI2				160 VDC = E0		2200 pF = 1220				3×7.5×4.6 PCM 2.5 = 0C				AMMO H18.5 340×340 = C			
FKS 3 = FKS3				250 VDC = F0		3300 pF = 1330				2.5×6.5×7.2 PCM 5 = 1A				AMMO H18.5 490×370 = D			
FKM 3 = FKM3				400 VDC = G0		4700 pF = 1470				3×7.5×7.2 PCM 5 = 1B				REEL H16.5 360 = F			
FKP 3 = FKP3				450 VDC = H0		6800 pF = 1680				2.5×7×10 PCM 7.5 = 2A				REEL H16.5 500 = H			
MKS 4 = MKS4				600 VDC = I0		0.01 μF = 2100				3×8.5×10 PCM 7.5 = 2B				REEL H18.5 360 = I			
MKM 4 = MKM4				630 VDC = J0		0.022 μF = 2220				3×9×13 PCM 10 = 3A				REEL H18.5 500 = J			
MKP 4 = MKP4				700 VDC = K0		0.047 μF = 2470				4×9×13 PCM 10 = 3C				ROLL H16.5 = N			
MKP 10 = MKP1				800 VDC = L0		0.1 μF = 3100				5×11×18 PCM 15 = 4B				ROLL H18.5 = O			
FKP 4 = FKP4				850 VDC = M0		0.22 μF = 3220				6×12.5×18 PCM 15 = 4C				BLISTER W12 180 = P			
FKP 1 = FKP1				900 VDC = N0		0.47 μF = 3470				5×14×26.5 PCM 22.5 = 5A				BLISTER W12 330 = Q			
MKP-X2 = MKX2				1000 VDC = O1		1 μF = 4100				6×15×26.5 PCM 22.5 = 5B				BLISTER W16 330 = R			
MKP-X2 R = MKXR				1100 VDC = P0		2.2 μF = 4220				9×19×31.5 PCM 27.5 = 6A				BLISTER W24 330 = T			
MKP-Y2 = MKY2				1200 VDC = Q0		4.7 μF = 4470				11×21×31.5 PCM 27.5 = 6B				Bulk Mini = M			
MP 3-X2 = MPX2				1250 VDC = R0		10 μF = 5100				9×19×41.5 PCM 37.5 = 7A				Bulk Standard = S			
MP 3-X1 = MPX1				1500 VDC = S0		22 μF = 5220				11×22×41.5 PCM 37.5 = 7B				Bulk Maxi = G			
MP 3-Y2 = MPY2				1600 VDC = T0		47 μF = 5470				94×49×182 DCH_ = H0				TPS Mini = X			
MP 3R-Y2 = MPRY				2000 VDC = U0		100 μF = 6100				94×77×182 DCH_ = H1				TPS Standard = Y			
Snubber MKP = SNMP				2500 VDC = V0		220 μF = 6220				...				...			
Snubber FKP = SNFP				3000 VDC = W0		1 F = A010				Special features:				Lead length (untaped)			
GTO MKP = GTOM				4000 VDC = X0		2.5 F = A025											
DC-LINK MKP 4 = DCP4				6000 VDC = Y0		50 F = A500				Standard = 00				3.5 ±0.5 = C9			
DC-LINK MKP C = DCPC				250 VAC = 0W		100 F = B100				Version A1 = 1A				6 -2 = SD			
DC-LINK HC = DCH_				275 VAC = 1W		110 F = B110				Version A1.1 = 1B				16 -1 = P4			
SuperCap C = SCSC				300 VAC = 2W		600 F = B600				Version A1.2 = 1C				...			
SuperCap MC = SCMC				400 VAC = 3W		1200 F = C120				...				...			
SuperCap R = SCSR				440 VAC = 4W		...				...				...			
SuperCap MR = SCMR				500 VAC = 5W		...				...				...			

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.