

## Polypropylene (PP) Capacitors for Pulse Applications with Double-Sided Metallized Electrodes and Schoopage Contacts PCM 7.5 mm to 52.5 mm

### Special Features

- Pulse duty construction
- Self-healing
- Very low dissipation factor
- Negative capacitance change versus temperature
- According to RoHS 2011/65/EU

### Typical Applications

For pulse applications e.g.

- Switch mode power supplies
- TV and monitor sets
- Lighting
- Audio/video equipment

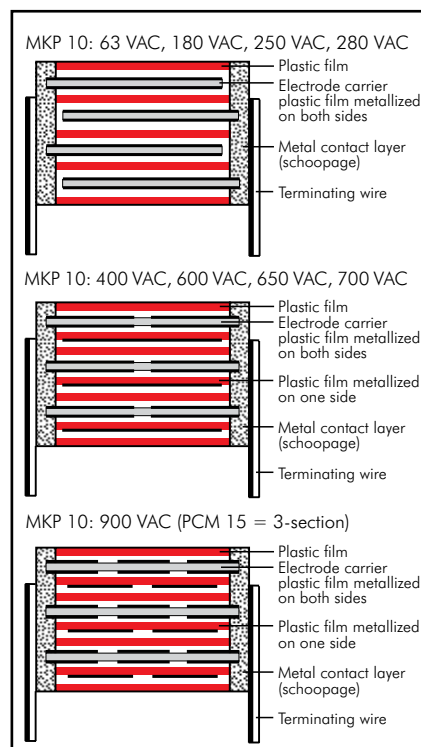
### Construction

**Dielectric:** Polypropylene (PP) film

**Capacitor electrodes:**

Double-sided metallized plastic film

**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. Epoxy resin seal: Red

### Electrical Data

#### Capacitance range:

1000 pF to 47  $\mu$ F (E12-values on request)

**Rated voltages:** 100 VDC, 250 VDC, 400 VDC, 630 VDC, 1000 VDC, 1600 VDC, 2000 VDC, 2500 VDC, 3000 VDC

#### Capacitance tolerances:

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

#### Operating temperature range:

$-55^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$

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

$C \leq 0.33 \mu\text{F}$ :  $\geq 1 \times 10^5 \text{ M}\Omega$

(mean value:  $5 \times 10^5 \text{ M}\Omega$ )

$C > 0.33 \mu\text{F}$ :  $\geq 30000 \text{ sec (M}\Omega \times \mu\text{F)}$

(mean value: 100 000 sec)

Measuring voltage: 100 V/1 min.

**Test voltage:** 2 sec.

| L      | $\leq 2000 \text{ VDC}$ | 2500 VDC  | $\geq 3000 \text{ VDC}$ |
|--------|-------------------------|-----------|-------------------------|
| < 41.5 | $1.6 U_r$               | $1.4 U_r$ | $1.2 U_r$               |
| 41.5   | $1.4 U_r$               | $1.4 U_r$ | $1.2 U_r$               |
| 57     | $1.2 U_r$               | $1.2 U_r$ | $1.2 U_r$               |

#### 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   | $\leq 3 \times 10^{-4}$  | $\leq 3 \times 10^{-4}$                    | $\leq 3 \times 10^{-4}$ |
| 10 kHz  | $\leq 4 \times 10^{-4}$  | $\leq 6 \times 10^{-4}$                    | –                       |
| 100 kHz | $\leq 15 \times 10^{-4}$ | –                                          | –                       |

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

| Capacitance<br>pF/ $\mu\text{F}$ | max. pulse rise time V/ $\mu\text{sec}$ at $T_A < 40^{\circ}\text{C}$ |         |         |         |          |          |          |          |          |
|----------------------------------|-----------------------------------------------------------------------|---------|---------|---------|----------|----------|----------|----------|----------|
|                                  | 100 VDC                                                               | 250 VDC | 400 VDC | 630 VDC | 1000 VDC | 1600 VDC | 2000 VDC | 2500 VDC | 3000 VDC |
| 1000 ... 2200                    | 1250                                                                  | 2300    | 2300    | 2300    | 3500     | 7000     | 11500    | 11500    | –        |
| 3300 ... 6800                    | 1150                                                                  | 1500    | 1500    | 1500    | 3500     | 7000     | 11500    | 11500    | –        |
| 0.01 ... 0.022                   | 900                                                                   | 1400    | 1500    | 1500    | 2700     | 3800     | 4400     | 11500    | –        |
| 0.033 ... 0.068                  | 500                                                                   | 1000    | 1150    | 1400    | 2700     | 2700     | 2700     | –        | 2700     |
| 0.1 ... 0.22                     | 250                                                                   | 650     | 650     | 1150    | 1800     | 1800     | 1800     | –        | 1800     |
| 0.33 ... 0.68                    | 130                                                                   | 390     | 500     | 900     | 1150     | 1150     | 1150     | –        | 1150     |
| 1.0 ... 2.2                      | 90                                                                    | 250     | 250     | 500     | 500      | 650      | 650      | –        | 500      |
| 3.3 ... 4.7                      | 65                                                                    | 100     | 130     | 190     | 230      | 330      | –        | –        | –        |
| 6.8 ... 15                       | 45                                                                    | 65      | 90      | 160     | –        | –        | –        | –        | –        |
| 22 ... 47                        | 30                                                                    | 45      | 45      | –       | –        | –        | –        | –        | –        |

### Mechanical Tests

#### Pull test on pins:

$d \leq 0.8 \phi$ : 10 N in direction of pins

$d > 0.8 \phi$ : 20 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/sec<sup>2</sup> in accordance with IEC 60068-2-29

#### Climatic test category:

55/100/56 in accordance with IEC

**Dielectric absorption:** 0.05 %

#### Voltage derating:

A voltage derating factor of 1.35 % 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 < 1 fit ( $0.5 \times U_r$  and  $40^{\circ}\text{C}$ )

#### Specific dissipation:

| Box size*<br>W x H x L in mm | Specific dissipation in Watts per K<br>above the ambient temperature |
|------------------------------|----------------------------------------------------------------------|
| 35 x 50 x 57                 | 0.132                                                                |
| 45 x 55 x 57                 | 0.164                                                                |
| 45 x 65 x 57                 | 0.184                                                                |

\* other box sizes see page 11.

### 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 | 100 VDC/63 VAC* |      |      |       |              | 250 VDC/180 VAC* |      |      |       |              |
|-------------|-----------------|------|------|-------|--------------|------------------|------|------|-------|--------------|
|             | W               | H    | L    | PCM** | Part number  | W                | H    | L    | PCM** | Part number  |
| 1000 pF     | 4               | 9    | 10   | 7.5   | MKP1D011002C | 4                | 9    | 10   | 7.5   | MKP1F011002C |
| 1500 "      | 4               | 9    | 10   | 7.5   | MKP1D011502C | 4                | 9    | 10   | 7.5   | MKP1F011502C |
| 2200 "      | 4               | 9    | 10   | 7.5   | MKP1D012202C | 4                | 9    | 10   | 7.5   | MKP1F012202C |
| 3300 "      | 4               | 9    | 10   | 7.5   | MKP1D013302C | 4                | 9    | 10   | 7.5   | MKP1F013302C |
| 4700 "      | 4               | 9    | 10   | 7.5   | MKP1D014702C | 4                | 9    | 10   | 7.5   | MKP1F014702C |
| 6800 "      | 4               | 9    | 10   | 7.5   | MKP1D016802C | 4                | 9    | 10   | 7.5   | MKP1F016802C |
| 0.01 µF     | 4               | 9    | 10   | 7.5   | MKP1D021002C | 4                | 9    | 10   | 7.5   | MKP1F021002C |
| 0.015 "     | 4               | 9    | 10   | 7.5   | MKP1D021502C | 4                | 9    | 13   | 10    | MKP1F021003C |
| 0.022 "     | 4               | 9    | 10   | 7.5   | MKP1D022202C | 4                | 9    | 10   | 7.5   | MKP1F021502C |
| 0.033 "     | 5               | 10.5 | 10.3 | 7.5   | MKP1D023302E | 4                | 9    | 13   | 10    | MKP1F021503C |
| 0.047 "     | 4               | 9    | 13   | 10    | MKP1D023303C | 4                | 9    | 10   | 7.5   | MKP1F022202C |
| 0.068 "     | 5               | 10.5 | 10.3 | 7.5   | MKP1D024702E | 4                | 9    | 13   | 10    | MKP1F022203C |
|             | 4               | 9    | 13   | 10    | MKP1D024703C | 5                | 10.5 | 10.3 | 7.5   | MKP1F023302E |
|             | 5               | 11   | 13   | 10    | MKP1D026803F | 4                | 9    | 13   | 10    | MKP1F023303C |
|             |                 |      |      |       |              | 5                | 11   | 13   | 10    | MKP1F024702E |
|             |                 |      |      |       |              | 5                | 11   | 18   | 15    | MKP1F024703C |
| 0.1 µF      | 6               | 12   | 13   | 10    | MKP1D031003G | 6                | 12   | 13   | 10    | MKP1F026803F |
| 0.15 "      | 6               | 12.5 | 18   | 15    | MKP1D031504C | 5                | 11   | 18   | 15    | MKP1F026804B |
| 0.22 "      | 7               | 14   | 18   | 15    | MKP1D032204D | 6                | 12.5 | 18   | 15    | MKP1F031003G |
| 0.33 "      | 8               | 15   | 18   | 15    | MKP1D033304F | 6                | 15   | 26.5 | 22.5  | MKP1F031004B |
| 0.47 "      | 9               | 16   | 18   | 15    | MKP1D034704J | 7                | 14   | 18   | 15    | MKP1F031504C |
| 0.68 "      | 7               | 16.5 | 26.5 | 22.5  | MKP1D034705D | 6                | 15   | 26.5 | 22.5  | MKP1F031505B |
|             | 8.5             | 18.5 | 26.5 | 22.5  | MKP1D036805F | 8                | 15   | 18   | 15    | MKP1F032204D |
|             |                 |      |      |       |              | 6                | 15   | 26.5 | 22.5  | MKP1F032205B |
|             |                 |      |      |       |              | 9                | 16   | 18   | 15    | MKP1F033304F |
|             |                 |      |      |       |              | 7                | 16.5 | 26.5 | 22.5  | MKP1F033305B |
|             |                 |      |      |       |              | 8.5              | 18.5 | 26.5 | 22.5  | MKP1F033305B |
|             |                 |      |      |       |              | 9                | 19   | 31.5 | 27.5  | MKP1F034704J |
| 1.0 µF      | 10.5            | 19   | 26.5 | 22.5  | MKP1D041005G | 11               | 21   | 26.5 | 22.5  | MKP1F034705D |
| 1.5 "       | 11              | 21   | 31.5 | 27.5  | MKP1D041506B | 11               | 21   | 31.5 | 27.5  | MKP1F036805F |
| 2.2 "       | 13              | 24   | 31.5 | 27.5  | MKP1D042206D | 13               | 24   | 31.5 | 27.5  | MKP1F036806A |
| 3.3 "       | 17              | 29   | 31.5 | 27.5  | MKP1D043306G | 13               | 24   | 41.5 | 37.5  | MKP1F041005I |
| 4.7 "       | 20              | 39.5 | 31.5 | 27.5  | MKP1D044706J | 15               | 26   | 31.5 | 27.5  | MKP1F041006B |
| 6.8 "       | 17              | 29   | 41.5 | 37.5  | MKP1D044707E | 13               | 24   | 41.5 | 37.5  | MKP1F041506D |
|             | 19              | 32   | 41.5 | 37.5  | MKP1D046807F | 17               | 34.5 | 31.5 | 27.5  | MKP1F041507C |
|             |                 |      |      |       |              | 17               | 29   | 41.5 | 37.5  | MKP1F042206F |
| 10 µF       | 20              | 39.5 | 41.5 | 37.5  | MKP1D051007G | 20               | 39.5 | 31.5 | 27.5  | MKP1F042207C |
| 15 "        | 24              | 45.5 | 41.5 | 37.5  | MKP1D051507H | 19               | 32   | 41.5 | 37.5  | MKP1F043306I |
|             | 31              | 46   | 41.5 | 37.5  | MKP1D051507I | 20               | 39.5 | 31.5 | 27.5  | MKP1F043307E |
|             | 35              | 50   | 41.5 | 37.5  | MKP1D052207J | 19               | 32   | 41.5 | 37.5  | MKP1F044706J |
| 22 "        | 40              | 55   | 41.5 | 37.5  | MKP1D053307K | 20               | 39.5 | 41.5 | 37.5  | MKP1F044707F |
| 33 "        | 35              | 50   | 57   | 52.5  | MKP1D053309F | 20               | 39.5 | 41.5 | 37.5  | MKP1F046807G |
| 47 "        | 45              | 65   | 57   | 52.5  | MKP1D054709J |                  |      |      |       |              |

\* 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.

Ionisation inception level in isolated cases may be lower than admissible rated AC voltage.

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#### 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 140.

## Continuation

### General Data

| Capacitance | 400 VDC/250 VAC* |      |      |       |              | 630 VDC/400 VAC* |      |      |       |              |
|-------------|------------------|------|------|-------|--------------|------------------|------|------|-------|--------------|
|             | W                | H    | L    | PCM** | Part number  | W                | H    | L    | PCM** | Part number  |
| 1000 pF     | 4                | 9    | 10   | 7.5   | MKP1G011002C | 4                | 9    | 10   | 7.5*  | MKP1J011002C |
| 1500 "      | 4                | 9    | 10   | 7.5   | MKP1G011502C | 4                | 9    | 10   | 7.5*  | MKP1J011502C |
| 2200 "      | 4                | 9    | 10   | 7.5   | MKP1G012202C | 4                | 9    | 10   | 7.5*  | MKP1J012202C |
| 3300 "      | 4                | 9    | 10   | 7.5   | MKP1G013302C | 4                | 9    | 10   | 7.5*  | MKP1J013302C |
| 4700 "      | 4                | 9    | 10   | 7.5   | MKP1G014702C | 4                | 9    | 10   | 7.5*  | MKP1J014702C |
| 6800 "      | 4                | 9    | 10   | 7.5   | MKP1G016802C | 4                | 9    | 10   | 7.5*  | MKP1J016802C |
|             |                  |      |      |       |              | 4                | 9    | 13   | 10    | MKP1J016803C |
| 0.01 µF     | 4                | 9    | 10   | 7.5   | MKP1G021002C | 5                | 10.5 | 10.3 | 7.5*  | MKP1J021002E |
|             | 4                | 9    | 13   | 10    | MKP1G021003C | 4                | 9    | 13   | 10    | MKP1J021003C |
| 0.015 "     | 5                | 10.5 | 10.3 | 7.5   | MKP1G021502E | 5                | 11   | 13   | 10    | MKP1J021503F |
|             | 4                | 9    | 13   | 10    | MKP1G021503C | 5                | 11   | 18   | 15    | MKP1J021504B |
| 0.022 "     | 5                | 10.5 | 10.3 | 7.5   | MKP1G022202E | 5                | 11   | 13   | 10    | MKP1J022203F |
|             | 4                | 9    | 13   | 10    | MKP1G022203C | 5                | 11   | 18   | 15    | MKP1J022204B |
| 0.033 "     | 5.7              | 12.5 | 10.3 | 7.5   | MKP1G023302F | 6                | 12   | 13   | 10    | MKP1J023303G |
|             | 5                | 11   | 13   | 10    | MKP1G023303F | 5                | 11   | 18   | 15    | MKP1J023304B |
| 0.047 "     | 6                | 12   | 13   | 10    | MKP1G024703G | 6                | 12.5 | 18   | 15    | MKP1J024704C |
|             | 5                | 11   | 18   | 15    | MKP1G024704B | 6                | 15   | 26.5 | 22.5  | MKP1J024705B |
| 0.068 "     | 6                | 12.5 | 18   | 15    | MKP1G026804C | 7                | 14   | 18   | 15    | MKP1J026804D |
|             | 6                | 15   | 26.5 | 22.5  | MKP1G026805B | 6                | 15   | 26.5 | 22.5  | MKP1J026805B |
| 0.1 µF      | 7                | 14   | 18   | 15    | MKP1G031004D | 9                | 16   | 18   | 15    | MKP1J031004J |
|             | 6                | 15   | 26.5 | 22.5  | MKP1G031005B | 7                | 16.5 | 26.5 | 22.5  | MKP1J031005D |
| 0.15 "      | 8                | 15   | 18   | 15    | MKP1G031504F | 8.5              | 18.5 | 26.5 | 22.5  | MKP1J031505F |
|             | 6                | 15   | 26.5 | 22.5  | MKP1G031505B | 9                | 19   | 31.5 | 27.5  | MKP1J031506A |
| 0.22 "      | 9                | 16   | 18   | 15    | MKP1G032204J | 8.5              | 18.5 | 26.5 | 22.5  | MKP1J032205F |
|             | 7                | 16.5 | 26.5 | 22.5  | MKP1G032205D | 9                | 19   | 31.5 | 27.5  | MKP1J032206A |
| 0.33 "      | 8.5              | 18.5 | 26.5 | 22.5  | MKP1G033305F | 11               | 21   | 26.5 | 22.5  | MKP1J033305I |
|             | 9                | 19   | 31.5 | 27.5  | MKP1G033306A | 11               | 21   | 31.5 | 27.5  | MKP1J033306B |
| 0.47 "      | 10.5             | 19   | 26.5 | 22.5  | MKP1G034705G | 11               | 21   | 31.5 | 27.5  | MKP1J034706B |
|             | 9                | 19   | 31.5 | 27.5  | MKP1G034706A |                  |      |      |       |              |
| 0.68 "      | 11               | 21   | 26.5 | 22.5  | MKP1G036805I | 15               | 26   | 31.5 | 27.5  | MKP1J036806F |
|             | 11               | 21   | 31.5 | 27.5  | MKP1G036806B | 13               | 24   | 41.5 | 37.5  | MKP1J036807C |
| 1.0 µF      | 13               | 24   | 31.5 | 27.5  | MKP1G041006D | 17               | 29   | 31.5 | 27.5  | MKP1J041006G |
|             | 13               | 24   | 41.5 | 37.5  | MKP1G041007C | 15               | 26   | 41.5 | 37.5  | MKP1J041007D |
| 1.5 "       | 17               | 29   | 31.5 | 27.5  | MKP1G041506G | 20               | 39.5 | 31.5 | 27.5  | MKP1J041506J |
|             | 13               | 24   | 41.5 | 37.5  | MKP1G041507C | 19               | 32   | 41.5 | 37.5  | MKP1J041507F |
| 2.2 "       | 20               | 39.5 | 31.5 | 27.5  | MKP1G042206J | 20               | 39.5 | 41.5 | 37.5  | MKP1J042207G |
|             | 17               | 29   | 41.5 | 37.5  | MKP1G042207E |                  |      |      |       |              |
| 3.3 "       | 20               | 39.5 | 41.5 | 37.5  | MKP1G043307G | 24               | 45.5 | 41.5 | 37.5  | MKP1J043307H |
| 4.7 "       | 20               | 39.5 | 41.5 | 37.5  | MKP1G044707G | 35               | 50   | 41.5 | 37.5  | MKP1J044707J |
| 6.8 "       | 24               | 45.5 | 41.5 | 37.5  | MKP1G046807H | 40               | 55   | 41.5 | 37.5  | MKP1J046807K |
|             |                  |      |      |       |              | 35               | 50   | 57   | 52.5  | MKP1J046809F |
| 10 µF       | 35               | 50   | 41.5 | 37.5  | MKP1G051007J | 45               | 55   | 57   | 52.5  | MKP1J051009H |
|             | 35               | 50   | 57   | 52.5  | MKP1G051009F |                  |      |      |       |              |
| 15 "        | 40               | 55   | 41.5 | 37.5  | MKP1G051507K |                  |      |      |       |              |
|             | 35               | 50   | 57   | 52.5  | MKP1G051509F |                  |      |      |       |              |
| 22 "        | 45               | 65   | 57   | 52.5  | MKP1G052209J |                  |      |      |       |              |

\* 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

\* Admissible AC voltage 280 VAC max..

Dims. in mm.

Ionisation inception level in isolated cases may be lower than admissible rated AC voltage.

#### 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 140. |       |      |

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## Continuation

### General Data

| Capacitance | 1000 VDC/600 VAC* |      |      |       |                   | 1600 VDC/650 VAC* |      |      |       |                   |
|-------------|-------------------|------|------|-------|-------------------|-------------------|------|------|-------|-------------------|
|             | W                 | H    | L    | PCM** | Part number       | W                 | H    | L    | PCM** | Part number       |
| 1000 pF     | 4                 | 9    | 10   | 7.5   | MKP1O111002C_____ | 4                 | 9    | 13   | 10    | MKP1T011003C_____ |
|             | 4                 | 9    | 13   | 10    | MKP1O111003C_____ |                   |      |      |       |                   |
| 1500 "      | 4                 | 9    | 10   | 7.5   | MKP1O111502C_____ | 4                 | 9    | 13   | 10    | MKP1T011503C_____ |
|             | 4                 | 9    | 13   | 10    | MKP1O111503C_____ |                   |      |      |       |                   |
| 2200 "      | 4                 | 9    | 10   | 7.5   | MKP1O112202C_____ | 4                 | 9    | 13   | 10    | MKP1T012203C_____ |
|             | 4                 | 9    | 13   | 10    | MKP1O112203C_____ |                   |      |      |       |                   |
| 3300 "      | 4                 | 9    | 10   | 7.5   | MKP1O113302C_____ | 4                 | 9    | 13   | 10    | MKP1T013303C_____ |
|             | 4                 | 9    | 13   | 10    | MKP1O113303C_____ |                   |      |      |       |                   |
| 4700 "      | 4.5               | 9.5  | 10.3 | 7.5   | MKP1O114702D_____ | 5                 | 11   | 13   | 10    | MKP1T014703F_____ |
|             | 4                 | 9    | 13   | 10    | MKP1O114703C_____ |                   |      |      |       |                   |
| 6800 "      | 5.7               | 12.5 | 10.3 | 7.5   | MKP1O116802F_____ | 6                 | 12   | 13   | 10    | MKP1T016803G_____ |
|             | 5                 | 11   | 13   | 10    | MKP1O116803F_____ | 5                 | 11   | 18   | 15    | MKP1T016804B_____ |
| 0.01 µF     | 5                 | 11   | 13   | 10    | MKP1O121003F_____ | 5                 | 11   | 18   | 15    | MKP1T021004B_____ |
|             | 5                 | 11   | 18   | 15    | MKP1O121004B_____ |                   |      |      |       |                   |
| 0.015 "     | 6                 | 12   | 13   | 10    | MKP1O121503G_____ | 6                 | 12.5 | 18   | 15    | MKP1T021504C_____ |
|             | 5                 | 11   | 18   | 15    | MKP1O121504B_____ | 6                 | 15   | 26.5 | 22.5  | MKP1T021505B_____ |
| 0.022 "     | 6                 | 12.5 | 18   | 15    | MKP1O122204C_____ | 7                 | 14   | 18   | 15    | MKP1T022204D_____ |
|             | 6                 | 15   | 26.5 | 22.5  | MKP1O122205B_____ | 6                 | 15   | 26.5 | 22.5  | MKP1T022205B_____ |
| 0.033 "     | 7                 | 14   | 18   | 15    | MKP1O123304D_____ | 8                 | 15   | 18   | 15    | MKP1T023304F_____ |
|             | 6                 | 15   | 26.5 | 22.5  | MKP1O123305B_____ | 6                 | 15   | 26.5 | 22.5  | MKP1T023305B_____ |
| 0.047 "     | 8                 | 15   | 18   | 15    | MKP1O124704F_____ | 7                 | 16.5 | 26.5 | 22.5  | MKP1T024705D_____ |
|             | 6                 | 15   | 26.5 | 22.5  | MKP1O124705B_____ | 9                 | 19   | 31.5 | 27.5  | MKP1T024706A_____ |
| 0.068 "     | 7                 | 16.5 | 26.5 | 22.5  | MKP1O126805D_____ | 10.5              | 19   | 26.5 | 22.5  | MKP1T026805G_____ |
|             |                   |      |      |       |                   | 9                 | 19   | 31.5 | 27.5  | MKP1T026806A_____ |
| 0.1 µF      | 8.5               | 18.5 | 26.5 | 22.5  | MKP1O131005F_____ | 11                | 21   | 26.5 | 22.5  | MKP1T031005I_____ |
|             | 11                | 21   | 31.5 | 27.5  | MKP1O131006B_____ | 11                | 21   | 31.5 | 27.5  | MKP1T031006B_____ |
| 0.15 "      | 11                | 21   | 26.5 | 22.5  | MKP1O131505I_____ | 13                | 24   | 31.5 | 27.5  | MKP1T031506D_____ |
|             | 11                | 21   | 31.5 | 27.5  | MKP1O131506B_____ |                   |      |      |       |                   |
| 0.22 "      | 11                | 21   | 31.5 | 27.5  | MKP1O132206B_____ | 15                | 26   | 31.5 | 27.5  | MKP1T032206F_____ |
|             |                   |      |      |       |                   | 13                | 24   | 41.5 | 37.5  | MKP1T032207C_____ |
| 0.33 "      | 13                | 24   | 31.5 | 27.5  | MKP1O133306D_____ | 17                | 34.5 | 31.5 | 27.5  | MKP1T033306I_____ |
|             | 15                | 26   | 31.5 | 27.5  | MKP1O133306F_____ | 17                | 29   | 41.5 | 37.5  | MKP1T033307E_____ |
|             | 13                | 24   | 41.5 | 37.5  | MKP1O133307C_____ |                   |      |      |       |                   |
| 0.47 "      | 17                | 29   | 31.5 | 27.5  | MKP1O134706G_____ | 20                | 39.5 | 31.5 | 27.5  | MKP1T034706J_____ |
|             | 13                | 24   | 41.5 | 37.5  | MKP1O134707C_____ | 19                | 32   | 41.5 | 37.5  | MKP1T034707F_____ |
| 0.68 "      | 20                | 39.5 | 31.5 | 27.5  | MKP1O136806J_____ | 20                | 39.5 | 41.5 | 37.5  | MKP1T036807G_____ |
|             | 17                | 29   | 41.5 | 37.5  | MKP1O136807E_____ |                   |      |      |       |                   |
| 1.0 µF      | 20                | 39.5 | 41.5 | 37.5  | MKP1O141007G_____ | 24                | 45.5 | 41.5 | 37.5  | MKP1T041007H_____ |
| 1.5 "       | 24                | 45.5 | 41.5 | 37.5  | MKP1O141507H_____ | 31                | 46   | 41.5 | 37.5  | MKP1T041507I_____ |
| 2.2 "       | 31                | 46   | 41.5 | 37.5  | MKP1O142207I_____ | 40                | 55   | 41.5 | 37.5  | MKP1T042207K_____ |
|             |                   |      |      |       |                   | 35                | 50   | 57   | 52.5  | MKP1T042209F_____ |
| 3.3 "       | 40                | 55   | 41.5 | 37.5  | MKP1O143307K_____ | 45                | 65   | 57   | 52.5  | MKP1T043309J_____ |
|             | 35                | 50   | 57   | 52.5  | MKP1O143309F_____ |                   |      |      |       |                   |
| 4.7 "       | 45                | 55   | 57   | 52.5  | MKP1O144709H_____ |                   |      |      |       |                   |

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

     New box size

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

Dims. in mm.

Ionisation inception level in isolated cases may be lower than admissible rated AC voltage.

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#### 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 140. |       |      |

Continuation page 64

## Continuation

### General Data

| Capacitance | 2000 VDC/700 VAC* |      |      |       |                   | 2500 VDC/900 VAC* |      |      |       |                   |
|-------------|-------------------|------|------|-------|-------------------|-------------------|------|------|-------|-------------------|
|             | W                 | H    | L    | PCM** | Part number       | W                 | H    | L    | PCM** | Part number       |
| 1000 pF     | 4                 | 9    | 13   | 10    | MKP1U011003C_____ | 5                 | 11   | 18   | 15    | MKP1V011004B_____ |
| 1500 "      | 4                 | 9    | 13   | 10    | MKP1U011503C_____ | 6                 | 15   | 26.5 | 22.5  | MKP1V011005B_____ |
| 2200 "      | 5                 | 11   | 13   | 10    | MKP1U012203F_____ | 5                 | 11   | 18   | 15    | MKP1V011504B_____ |
| 3300 "      | 5                 | 11   | 18   | 15    | MKP1U012204B_____ | 6                 | 15   | 26.5 | 22.5  | MKP1V011505B_____ |
| 4700 "      | 5                 | 11   | 18   | 15    | MKP1U013304B_____ | 5                 | 11   | 18   | 15    | MKP1V012204B_____ |
| 6800 "      | 6                 | 15   | 26.5 | 22.5  | MKP1U014704B_____ | 6                 | 15   | 26.5 | 22.5  | MKP1V012205B_____ |
|             | 6                 | 15   | 26.5 | 22.5  | MKP1U014705B_____ | 5                 | 11   | 18   | 15    | MKP1V013304B_____ |
|             | 6                 | 12.5 | 18   | 15    | MKP1U016804C_____ | 6                 | 15   | 26.5 | 22.5  | MKP1V013305B_____ |
|             | 6                 | 15   | 26.5 | 22.5  | MKP1U016805B_____ | 6                 | 12.5 | 18   | 15    | MKP1V014704C_____ |
| 0.01 µF     | 7                 | 14   | 18   | 15    | MKP1U021004D_____ | 6                 | 15   | 26.5 | 22.5  | MKP1V014705B_____ |
| 0.015 "     | 6                 | 15   | 26.5 | 22.5  | MKP1U021005B_____ | 7                 | 14   | 18   | 15    | MKP1V016804D_____ |
|             | 8                 | 15   | 18   | 15    | MKP1U021504F_____ | 7                 | 16.5 | 26.5 | 22.5  | MKP1V016805D_____ |
| 0.022 "     | 6                 | 15   | 26.5 | 22.5  | MKP1U021505B_____ |                   |      |      |       |                   |
|             | 9                 | 16   | 18   | 15    | MKP1U022204J_____ | 8.5               | 18.5 | 26.5 | 22.5  | MKP1V021005F_____ |
| 0.033 "     | 7                 | 16.5 | 26.5 | 22.5  | MKP1U022205D_____ | 10.5              | 19   | 26.5 | 22.5  | MKP1V021505G_____ |
|             | 8.5               | 18.5 | 26.5 | 22.5  | MKP1U023305F_____ | 11                | 21   | 26.5 | 22.5  | MKP1V022205I_____ |
| 0.047 "     | 9                 | 19   | 31.5 | 27.5  | MKP1U023306A_____ |                   |      |      |       |                   |
|             | 10.5              | 19   | 26.5 | 22.5  | MKP1U024705G_____ |                   |      |      |       |                   |
| 0.068 "     | 11                | 21   | 31.5 | 27.5  | MKP1U024706B_____ |                   |      |      |       |                   |
|             | 11                | 21   | 26.5 | 22.5  | MKP1U026805I_____ |                   |      |      |       |                   |
|             | 11                | 21   | 31.5 | 27.5  | MKP1U026806B_____ |                   |      |      |       |                   |
| 0.1 µF      | 13                | 24   | 31.5 | 27.5  | MKP1U031006D_____ |                   |      |      |       |                   |
| 0.15 "      | 15                | 26   | 31.5 | 27.5  | MKP1U031506F_____ |                   |      |      |       |                   |
|             | 13                | 24   | 41.5 | 37.5  | MKP1U031507C_____ |                   |      |      |       |                   |
| 0.22 "      | 17                | 34.5 | 31.5 | 27.5  | MKP1U032206I_____ |                   |      |      |       |                   |
|             | 17                | 29   | 41.5 | 37.5  | MKP1U032207E_____ |                   |      |      |       |                   |
| 0.33 "      | 19                | 32   | 41.5 | 37.5  | MKP1U033307F_____ |                   |      |      |       |                   |
| 0.47 "      | 20                | 39.5 | 41.5 | 37.5  | MKP1U034707G_____ |                   |      |      |       |                   |
| 0.68 "      | 24                | 45.5 | 41.5 | 37.5  | MKP1U036807H_____ |                   |      |      |       |                   |
| 1.0 µF      | 35                | 50   | 41.5 | 37.5  | MKP1U041007J_____ |                   |      |      |       |                   |
| 1.5 "       | 40                | 55   | 41.5 | 37.5  | MKP1U041507K_____ |                   |      |      |       |                   |
|             | 35                | 50   | 57   | 52.5  | MKP1U041509F_____ |                   |      |      |       |                   |
| 2.2 "       | 45                | 55   | 57   | 52.5  | MKP1U042209H_____ |                   |      |      |       |                   |

\* 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.

Ionisation inception level in isolated cases may be lower than admissible rated AC voltage.

#### 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 140. |       |      |

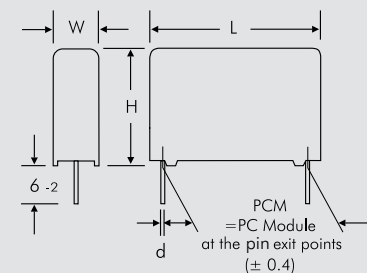
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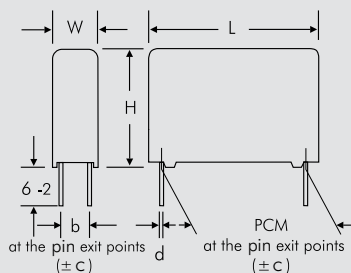
## Continuation

### General Data

| Capacitance        | W   | H    | L    | PCM** | Part number  |                                                                                                                                                                                                                                                               |
|--------------------|-----|------|------|-------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.01 $\mu\text{F}$ | 6   | 15   | 26.5 | 22.5  | MKP1W021005B | * AC voltage: $f \leq 1000 \text{ Hz}$ ; $1.4 \times U_{\text{rms}} + U_{\text{DC}} \leq U_r$<br>** PCM = Printed circuit module = pin spacing<br>Dims. in mm.<br>Ionisation inception level in isolated cases may be lower than admissible rated AC voltage. |
| 0.015 "            | 7   | 16.5 | 26.5 | 22.5  | MKP1W021505D |                                                                                                                                                                                                                                                               |
| 0.022 "            | 8.5 | 18.5 | 26.5 | 22.5  | MKP1W022205F |                                                                                                                                                                                                                                                               |
| 0.033 "            | 11  | 21   | 26.5 | 22.5  | MKP1W023305I |                                                                                                                                                                                                                                                               |
|                    | 9   | 19   | 31.5 | 27.5  | MKP1W023306A |                                                                                                                                                                                                                                                               |
| 0.047 "            | 11  | 21   | 31.5 | 27.5  | MKP1W024706B |                                                                                                                                                                                                                                                               |
| 0.068 "            | 13  | 24   | 31.5 | 27.5  | MKP1W026806D |                                                                                                                                                                                                                                                               |
| 0.1 $\mu\text{F}$  | 15  | 26   | 31.5 | 27.5  | MKP1W031006F |                                                                                                                                                                                                                                                               |
|                    | 13  | 24   | 41.5 | 37.5  | MKP1W031007C |                                                                                                                                                                                                                                                               |
| 0.15 "             | 17  | 34.5 | 31.5 | 27.5  | MKP1W031506I |                                                                                                                                                                                                                                                               |
|                    | 15  | 26   | 41.5 | 37.5  | MKP1W031507D | <b>Part number completion:</b><br>Version code: 2-pin = 00<br>4-pin = D4<br>Tolerance: 20 % = M<br>10 % = K<br>5 % = J<br>Packing: bulk = S<br>Pin length: 6-2 = SD<br>Taped version see page 140.                                                            |
| 0.22 "             | 19  | 32   | 41.5 | 37.5  | MKP1W032207F |                                                                                                                                                                                                                                                               |
| 0.33 "             | 24  | 45.5 | 41.5 | 37.5  | MKP1W033307H |                                                                                                                                                                                                                                                               |
| 0.47 "             | 31  | 46   | 41.5 | 37.5  | MKP1W034707I |                                                                                                                                                                                                                                                               |
| 0.68 "             | 35  | 50   | 41.5 | 37.5  | MKP1W036807J |                                                                                                                                                                                                                                                               |
| 1.0 $\mu\text{F}$  | 40  | 55   | 41.5 | 37.5  | MKP1W041007K |                                                                                                                                                                                                                                                               |
|                    | 35  | 50   | 57   | 52.5  | MKP1W041009F |                                                                                                                                                                                                                                                               |
| 1.5 "              | 45  | 55   | 57   | 52.5  | MKP1W041509H |                                                                                                                                                                                                                                                               |

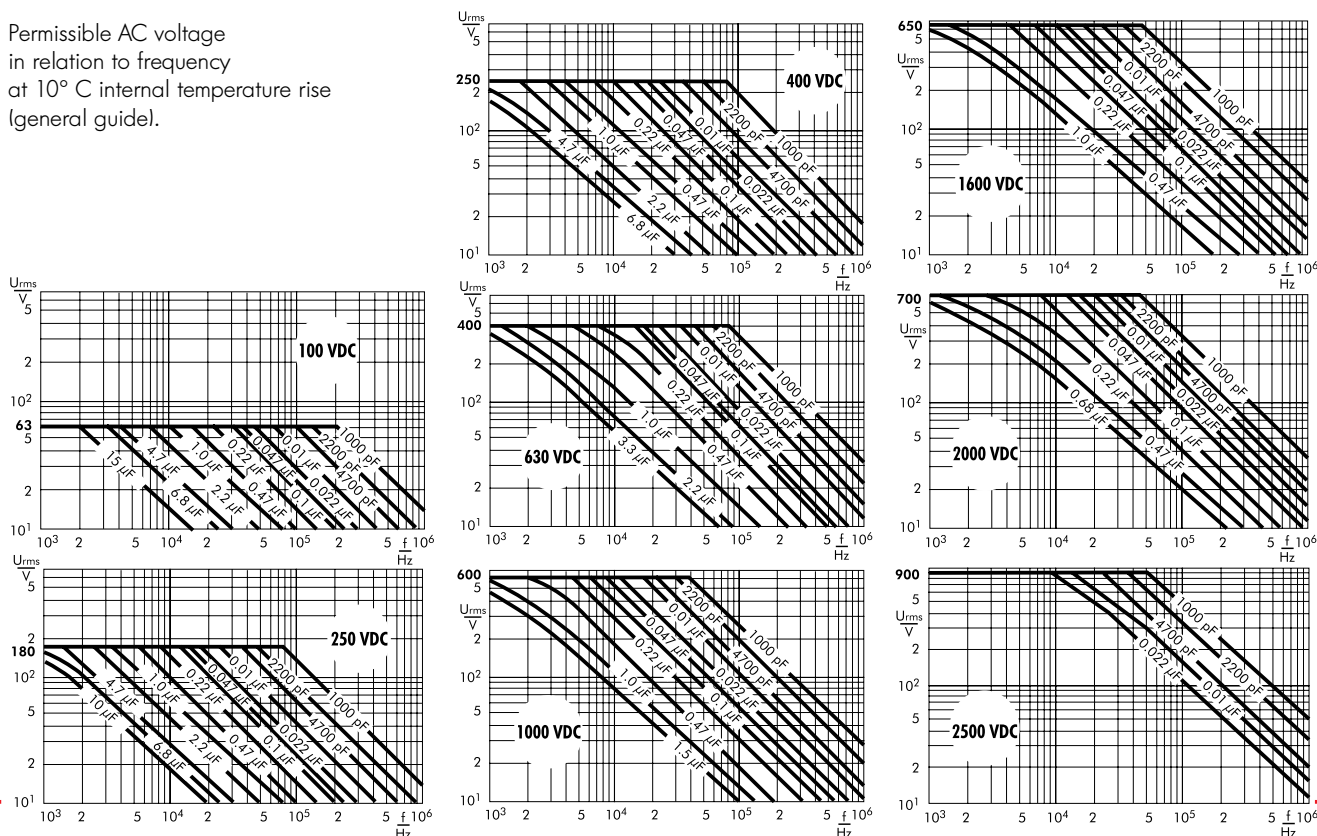


| $\phi d$ | PCM       |
|----------|-----------|
| 0.6      | 7.5 - 10  |
| 0.8      | 15 - 27.5 |
| 1.0      | 37.5      |



| W  | PCM  | b    | $\phi d$ | c   |
|----|------|------|----------|-----|
| 17 | 37.5 | 10   | 1.0      | 0.4 |
| 19 | 37.5 | 10   | 1.0      | 0.4 |
| 20 | 37.5 | 12.5 | 1.0      | 0.4 |
| 24 | 37.5 | 12.5 | 1.0      | 0.4 |
| 31 | 37.5 | 20   | 1.0      | 0.4 |
| 35 | 37.5 | 20   | 1.0      | 0.4 |
| 40 | 37.5 | 20   | 1.0      | 0.4 |
| 35 | 52.5 | 20   | 1.2      | 0.8 |
| 45 | 52.5 | 20   | 1.2      | 0.8 |

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:  $T_{\max.} \leq 125^{\circ}\text{C}$   
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:  $T < 260^{\circ}\text{C}$

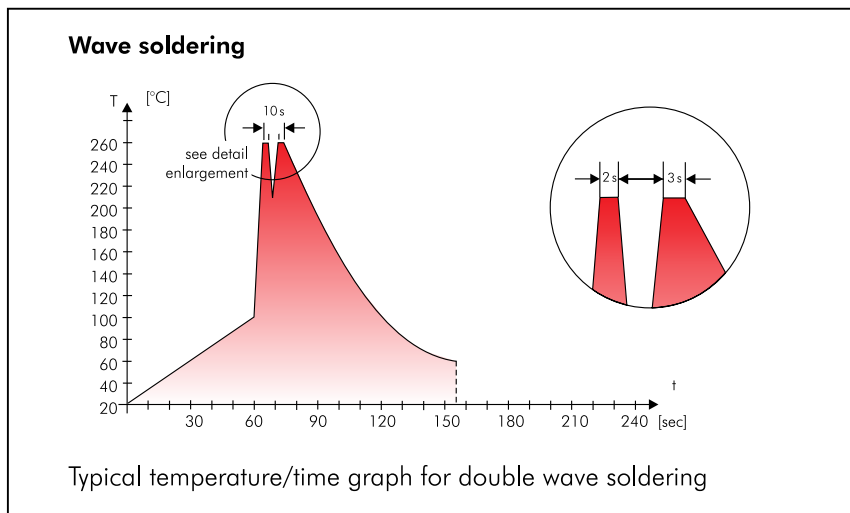
Dwell time:  $t < 5\text{ sec}$

#### 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 9001:2008 Certification

ISO 9001:2008 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2008 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
- 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                 | – 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 2011/65/EU 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

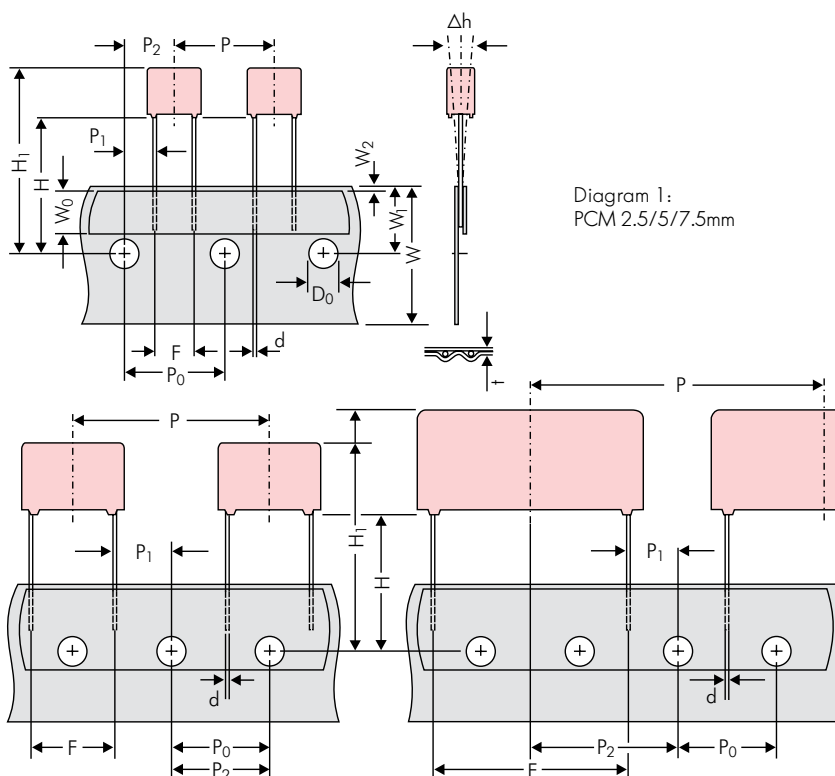


Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5\*mm

\*PCM 27.5 tapping possible with two feed holes between components

| Designation                                      | Symbol         | Dimensions for Radial Taping                                                     |                                                          |                                                           |                                                                                                                                                             |                                                           |                                                           |                                                           |
|--------------------------------------------------|----------------|----------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|
|                                                  |                | PCM 2.5 taping                                                                   | PCM 5 taping                                             | PCM 7.5 taping                                            | PCM 10 taping*                                                                                                                                              | PCM 15 taping*                                            | PCM 22.5 taping                                           | PCM 27.5 taping                                           |
| Carrier tape width                               | W              | 18.0 ±0.5                                                                        | 18.0 ±0.5                                                | 18.0 ±0.5                                                 | 18.0 ±0.5                                                                                                                                                   | 18.0 ±0.5                                                 | 18.0 ±0.5                                                 | 18.0 ±0.5                                                 |
| Hold-down tape width                             | W <sub>0</sub> | 6.0 for hot-sealing adhesive tape                                                | 6.0 for hot-sealing adhesive tape                        | 12.0 for hot-sealing adhesive tape                        | 12.0 for hot-sealing adhesive tape                                                                                                                          | 12.0 for hot-sealing adhesive tape                        | 12.0 for hot-sealing adhesive tape                        | 12.0 for hot-sealing adhesive tape                        |
| Hole position                                    | W <sub>1</sub> | 9.0 ±0.5                                                                         | 9.0 ±0.5                                                 | 9.0 ±0.5                                                  | 9.0 ±0.5                                                                                                                                                    | 9.0 ±0.5                                                  | 9.0 ±0.5                                                  | 9.0 ±0.5                                                  |
| Hold-down tape position                          | W <sub>2</sub> | 0.5 to 3.0 max.                                                                  | 0.5 to 3.0 max.                                          | 0.5 to 3.0 max.                                           | 0.5 to 3.0 max.                                                                                                                                             | 0.5 to 3.0 max.                                           | 0.5 to 3.0 max.                                           | 0.5 to 3.0 max.                                           |
| Feed hole diameter                               | D <sub>0</sub> | 4.0 ±0.2                                                                         | 4.0 ±0.2                                                 | 4.0 ±0.2                                                  | 4.0 ±0.2                                                                                                                                                    | 4.0 ±0.2                                                  | 4.0 ±0.2                                                  | 4.0 ±0.2                                                  |
| Pitch of component                               | P              | 12.7 ±1.0                                                                        | 12.7 ±1.0                                                | 12.7 ±1.0                                                 | 25.4 ±1.0                                                                                                                                                   | 25.4 ±1.0                                                 | 38.1 ±1.5                                                 | *38.1 ±1.5 or 50.8 ±1.5                                   |
| Feed hole pitch                                  | P <sub>0</sub> | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch                         | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch  | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch                                                                                                    | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch  | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch  | 12.7 ±0.3<br>cumulative pitch error max. 1.0 mm/20 pitch  |
| Feed hole centre to pin                          | P <sub>1</sub> | 5.1 ±0.5                                                                         | 3.85 ±0.7                                                | 2.6 ±0.7                                                  | 7.7 ±0.7                                                                                                                                                    | 5.2 ±0.7                                                  | 7.8 ±0.7                                                  | 5.3 ±0.7                                                  |
| Hole centre to component centre                  | P <sub>2</sub> | 6.35 ±1.3                                                                        | 6.35 ±1.3                                                | 6.35 ±1.3                                                 | 12.7 ±1.3                                                                                                                                                   | 12.7 ±1.3                                                 | 19.05 ±1.3                                                | 19.05 ±1.3                                                |
| Feed hole centre to bottom edge of the component | H              | 16.5 ±0.3                                                                        | 16.5 ±0.3                                                | 16.5 ±0.5                                                 | 16.5 ±0.5                                                                                                                                                   | 16.5 ±0.5                                                 | 16.5 ±0.5                                                 | 16.5 ±0.5                                                 |
|                                                  |                | 18.5 ±0.5                                                                        | 18.5 ±0.5                                                | 18.5 ±0.5                                                 | 18.5 ±0.5                                                                                                                                                   | 18.5 ±0.5                                                 | 18.5 ±0.5                                                 | 18.5 ±0.5                                                 |
| Feed hole centre to top edge of the component    | H <sub>1</sub> | H+H <sub>component</sub> < H <sub>1</sub><br>32.25 max.                          | H+H <sub>component</sub> < H <sub>1</sub><br>32.25 max.  | H+H <sub>component</sub> < H <sub>1</sub><br>24.5 to 31.5 | H+H <sub>component</sub> < H <sub>1</sub><br>25.0 to 31.5                                                                                                   | H+H <sub>component</sub> < H <sub>1</sub><br>26.0 to 37.0 | H+H <sub>component</sub> < H <sub>1</sub><br>30.0 to 43.0 | H+H <sub>component</sub> < H <sub>1</sub><br>35.0 to 45.0 |
| Pin spacing at upper edge of carrier tape        | F              | 2.5 ±0.5                                                                         | 5.0 <sup>+0.8</sup> <sub>-0.2</sub>                      | 7.5 ±0.8                                                  | 10.0 ±0.8                                                                                                                                                   | 15 ±0.8                                                   | 22.5 ±0.8                                                 | 27.5 ±0.8                                                 |
| Pin diameter                                     | d              | 0.4 ±0.05                                                                        | 0.5 ±0.05                                                | *0.5 ±0.05 or 0.6 <sup>+0.06</sup> <sub>-0.05</sub>       | *0.5 ±0.05 or 0.6 <sup>+0.06</sup> <sub>-0.05</sub>                                                                                                         | 0.8 <sup>+0.08</sup> <sub>-0.05</sub>                     | 0.8 <sup>+0.08</sup> <sub>-0.05</sub>                     | 0.8 <sup>+0.08</sup> <sub>-0.05</sub>                     |
| Component alignment                              | Δh             | ± 2.0 max.                                                                       | ± 2.0 max.                                               | ± 3.0 max.                                                | ± 3.0 max.                                                                                                                                                  | ± 3.0 max.                                                | ± 3.0 max.                                                | ± 3.0 max.                                                |
| Total tape thickness                             | t              | 0.7 ±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<br>(see also page 141)                   |                | ROLL/AMMO                                                                        |                                                          |                                                           | AMMO                                                                                                                                                        |                                                           |                                                           |                                                           |
|                                                  |                | REEL ϕ 360 max.<br>ϕ 30 ±1      B 52 ±2<br>58 ±2 } depending on comp. dimensions |                                                          |                                                           | REEL ϕ 360 max.<br>ϕ 30 ±1      B 52 ±2<br>58 ±2 or REEL ϕ 500 max.<br>ϕ 25 ±1      B 54 ±2<br>60 ±2      68 ±2 } depending on PCM and component dimensions |                                                           |                                                           |                                                           |
| Unit                                             |                | see details page 142.                                                            |                                                          |                                                           |                                                                                                                                                             |                                                           |                                                           |                                                           |

Dims in mm.

\* Diameter of pins see General Data.

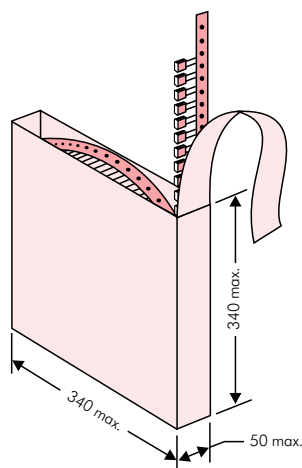
Please clarify customer-specific deviations with the manufacturer.

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

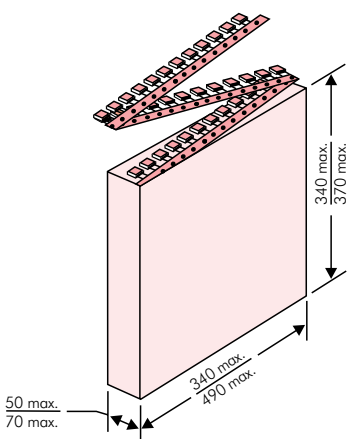
Position of components according to PCM 7.5 (sketch 11). P<sub>0</sub> = 12.7 or 15.0 is possible

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

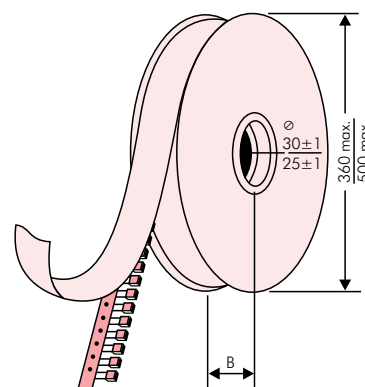
### ■ ROLL Packaging



### ■ AMMO Packaging



### ■ REEL Packaging



## BAR CODE (Labelling)

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

Scanner decoding of

- WIMA supplier number
- Customer's P/O number
- Customer's part number
- WIMA confirmation number
- WIMA part number
- Lot number
- Date code
- Quantity

In addition part description of

- article
- capacitance value
- rated voltage
- dimensions
- capacitance tolerance
- packing

as well as gross weight and customer's name are indicated in plain text.

|                                             |                                           |                          |         |
|---------------------------------------------|-------------------------------------------|--------------------------|---------|
| <b>WIMA</b> Best Capacitors Made in Germany |                                           | Werk Unna                |         |
| Supplier-ID: 123456789                      | <b>RoHS</b><br>2011/65/EU                 | Date Code: 08.10.10      |         |
| Purchase Order No. (P/O): Bestellung xyz    |                                           | Quantity: 5.000          |         |
| Customer Part No.: KUNDETEILENUMMER         |                                           | Customer No.: 0000100002 |         |
| WIMA Confirmation No.: 0001004063000100     |                                           | Gross Weight [g]: 1870   |         |
| WIMA Part No.: MKS2C034701C00K88D           |                                           |                          |         |
| Handling Unit:                              | MKS 2                                     | QTY: 5.000               | COO: DE |
|                                             | MKS 2 0.47 $\mu$ F 63 VDC 3.5x8.5x7.2 RMS |                          |         |
|                                             | Standard 10% Loss - Standard Drähte 6-2   |                          |         |
| 1000067326                                  | Vorlage Debitur Inland                    | Week 03/2011             |         |

BARCODE „Code 39“



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

| PCM     | Size  |       |       |       | bulk | pcs. per packing unit |   |           |   |      |   |      |   |      |   |
|---------|-------|-------|-------|-------|------|-----------------------|---|-----------|---|------|---|------|---|------|---|
|         |       |       |       |       |      | ROLL                  |   | REEL      |   |      |   | AMMO |   |      |   |
|         | H16.5 | H18.5 | ø 360 | ø 500 |      | 340 × 340             |   | 490 × 370 |   |      |   |      |   |      |   |
|         | W     | H     | L     | Codes | 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       |   | –    |   | 400  |   | –    |   |
| 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 |   | 3100 |   |
|         | 4.5   | 9.5   | 10.3  | 2D    | 3500 | –                     |   | 1500      |   | 2900 |   | 1400 |   | 2800 |   |
|         | 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 |   | –    |   | 1200 |   |
|         | 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 |   |
|         | 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  |   |
|         | 10    | 18    | 19    | FG    | 500  | –                     |   | 300       |   | 650  |   | –    |   | 590  |   |
|         | 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     | 20    | 28    | FH    | 500  | –                     |   | –         |   | 500  |   | –    |   | 480  |   |
|         | 8.5   | 18.5  | 26.5  | 5F    | 500  | –                     |   | –         |   | 480  |   | –    |   | 450  |   |
|         | 10    | 22    | 28    | FI    | 540* | –                     |   | –         |   | 420  |   | –    |   | 380  |   |
|         | 10.5  | 19    | 26.5  | 5G    | 680* | –                     |   | –         |   | 400  |   | –    |   | 360  |   |
|         | 10.5  | 20.5  | 26.5  | 5H    | 680* | –                     |   | –         |   | 400  |   | –    |   | 360  |   |
|         | 11    | 21    | 26.5  | 5I    | 680* | –                     |   | –         |   | 380  |   | –    |   | 350  |   |
|         | 12    | 24    | 28    | FJ    | 450* | –                     |   | –         |   | 350  |   | –    |   | 310  |   |

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

■ Moulded versions.

Rights reserved to amend design data without prior notification.

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

| PCM     | Size |      |      |       | bulk | ROLL  |       | pcs. per packing unit |       |           |           | AMMO  |       |       |       |
|---------|------|------|------|-------|------|-------|-------|-----------------------|-------|-----------|-----------|-------|-------|-------|-------|
|         |      |      |      |       |      |       |       | REEL                  |       |           |           |       |       |       |       |
|         | W    | H    | L    | Codes |      | H16.5 | H18.5 | ø 360                 | ø 500 | 340 × 340 | 490 × 370 | 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    | 640* | –     | –     | –                     | –     | 460/340*  | –         | –     | –     | 420   | –     |
|         | 11   | 21   | 31.5 | 6B    | 544* | –     | –     | –                     | –     | 380/280*  | –         | –     | –     | 350   | –     |
|         | 13   | 24   | 31.5 | 6D    | 448* | –     | –     | –                     | –     | 300       | –         | –     | –     | 290   | –     |
|         | 13   | 25   | 33   | FK    | 336* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 15   | 26   | 31.5 | 6F    | 384* | –     | –     | –                     | –     | 270       | –         | –     | –     | 250   | –     |
|         | 15   | 26   | 33   | FL    | 288* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 17   | 29   | 31.5 | 6G    | 176* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 17   | 34.5 | 31.5 | 6I    | 176* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 20   | 32   | 33   | FM    | 216* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 20   | 39.5 | 31.5 | 6J    | 144* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
| 37.5 mm | 9    | 19   | 41.5 | 7A    | 480* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 11   | 22   | 41.5 | 7B    | 408* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 13   | 24   | 41.5 | 7C    | 252* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 15   | 26   | 41.5 | 7D    | 144* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 17   | 29   | 41.5 | 7E    | 132* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 19   | 32   | 41.5 | 7F    | 108* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 20   | 39.5 | 41.5 | 7G    | 108* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 24   | 45.5 | 41.5 | 7H    | 84*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 27   | 15   | 41.5 | 7M    | 100* | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 31   | 46   | 41.5 | 7I    | 72*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 35   | 50   | 41.5 | 7J    | 35*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 40   | 55   | 41.5 | 7K    | 28*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
| 48.5 mm | 19   | 31   | 56   | 8D    | 50*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 23   | 34   | 56   | 8E    | 72*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 27   | 37.5 | 56   | 8H    | 60*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 33   | 48   | 56   | 8J    | 48*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
|         | 37   | 54   | 56   | 8L    | 25*  | –     | –     | –                     | –     | –         | –         | –     | –     | –     | –     |
| 52.5 mm | 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.

■ Moulded versions. Rights reserved to amend design data without prior notification.



## 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 μF             |   |   |    | 2.5x6.5x7.2                |    | -  |    | 20%                         | bulk | 6 -2 |    |
| <b>Type description:</b> |   |   |   | <b>Rated voltage:</b> |   | <b>Capacitance:</b> |   |   |    | <b>Size:</b>               |    |    |    | <b>Tolerance:</b>           |      |      |    |
| 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             |   |   |   | 600 VDC = I0          |   | 470 pF = 0470       |   |   |    | 10.2x7.6x5 Size 4030 = VA  |    |    |    | <b>Packing:</b>             |      |      |    |
| MKS 2 = MKS2             |   |   |   | 630 VDC = J0          |   | 680 pF = 0680       |   |   |    | 12.7x10.2x6 Size 5040 = XA |    |    |    |                             |      |      |    |
| MKP 2 = MKP2             |   |   |   | 700 VDC = K0          |   | 1000 pF = 1100      |   |   |    | 15.3x13.7x7 Size 6054 = YA |    |    |    | AMMO H16.5 340x340 = A      |      |      |    |
| FKS 3 = FKS3             |   |   |   | 800 VDC = L0          |   | 1500 pF = 1150      |   |   |    | 2.5x7x4.6 PCM 2.5 = 0B     |    |    |    | AMMO H16.5 490x370 = B      |      |      |    |
| FKP 3 = FKP3             |   |   |   | 850 VDC = M0          |   | 2200 pF = 1220      |   |   |    | 3x7.5x4.6 PCM 2.5 = 0C     |    |    |    | AMMO H18.5 340x340 = C      |      |      |    |
| MKS 4 = MKS4             |   |   |   | 900 VDC = N0          |   | 3300 pF = 1330      |   |   |    | 2.5x6.5x7.2 PCM 5 = 1A     |    |    |    | AMMO H18.5 490x370 = D      |      |      |    |
| MKP 4 = MKP4             |   |   |   | 1000 VDC = O1         |   | 4700 pF = 1470      |   |   |    | 3x7.5x7.2 PCM 5 = 1B       |    |    |    | REEL H16.5 360 = F          |      |      |    |
| MKP 10 = MKP1            |   |   |   | 1100 VDC = P0         |   | 6800 pF = 1680      |   |   |    | 2.5x7x10 PCM 7.5 = 2A      |    |    |    | REEL H16.5 500 = H          |      |      |    |
| FKP 4 = FKP4             |   |   |   | 1200 VDC = Q0         |   | 0.01 μF = 2100      |   |   |    | 3x8.5x10 PCM 7.5 = 2B      |    |    |    | REEL H18.5 360 = I          |      |      |    |
| FKP 1 = FKP1             |   |   |   | 1250 VDC = R0         |   | 0.022 μF = 2220     |   |   |    | 3x9x13 PCM 10 = 3A         |    |    |    | REEL H18.5 500 = J          |      |      |    |
| MKP-X2 = MKX2            |   |   |   | 1500 VDC = S0         |   | 0.047 μF = 2470     |   |   |    | 4x9x13 PCM 10 = 3C         |    |    |    | ROLL H16.5 = N              |      |      |    |
| MKP-X2 R = MKXR          |   |   |   | 1600 VDC = T0         |   | 0.1 μF = 3100       |   |   |    | 5x11x18 PCM 15 = 4B        |    |    |    | ROLL H18.5 = O              |      |      |    |
| MKP-X1 R = MKX1          |   |   |   | 2000 VDC = U0         |   | 0.22 μF = 3220      |   |   |    | 6x12.5x18 PCM 15 = 4C      |    |    |    | BLISTER W12 180 = P         |      |      |    |
| MKP-Y2 = MKY2            |   |   |   | 2500 VDC = V0         |   | 0.47 μF = 3470      |   |   |    | 5x14x26.5 PCM 22.5 = 5A    |    |    |    | BLISTER W12 330 = Q         |      |      |    |
| MP 3-X2 = MPX2           |   |   |   | 3000 VDC = W0         |   | 1 μF = 4100         |   |   |    | 6x15x26.5 PCM 22.5 = 5B    |    |    |    | BLISTER W16 330 = R         |      |      |    |
| MP 3-X1 = MPX1           |   |   |   | 4000 VDC = X0         |   | 2.2 μF = 4220       |   |   |    | 9x19x31.5 PCM 27.5 = 6A    |    |    |    | BLISTER W24 330 = T         |      |      |    |
| MP 3-Y2 = MPY2           |   |   |   | 6000 VDC = Y0         |   | 4.7 μF = 4470       |   |   |    | 11x21x31.5 PCM 27.5 = 6B   |    |    |    | Bulk/TPS Standard = S       |      |      |    |
| MP 3R-Y2 = MPRY          |   |   |   | 250 VAC = 0W          |   | 10 μF = 5100        |   |   |    | 9x19x41.5 PCM 37.5 = 7A    |    |    |    | ...                         |      |      |    |
| Snubber MKP = SNMP       |   |   |   | 275 VAC = 1W          |   | 22 μF = 5220        |   |   |    | 11x22x41.5 PCM 37.5 = 7B   |    |    |    |                             |      |      |    |
| Snubber FKP = SNFP       |   |   |   | 300 VAC = 2W          |   | 47 μF = 5470        |   |   |    | 19x31x56 PCM 48.5 = 8D     |    |    |    |                             |      |      |    |
| GTO MKP = GTOM           |   |   |   | 305 VAC = AW          |   | 100 μF = 6100       |   |   |    | 35x50x57 PCM 52.5 = 9F     |    |    |    |                             |      |      |    |
| DC-LINK MKP 3 = DCP3     |   |   |   | 400 VAC = 3W          |   | 220 μF = 6220       |   |   |    | ...                        |    |    |    |                             |      |      |    |
| DC-LINK MKP 4 = DCP4     |   |   |   | 440 VAC = 4W          |   | 1000 μF = 7100      |   |   |    | <b>Version code:</b>       |    |    |    | <b>Pin length (untaped)</b> |      |      |    |
| DC-LINK MKP 4S = DCP5    |   |   |   | 500 VAC = 5W          |   | 1500 μF = 7150      |   |   |    |                            |    |    |    |                             |      |      |    |
| DC-LINK MKP 5 = DCP5     |   |   |   | ...                   |   | ...                 |   |   |    | Standard = 00              |    |    |    | 3.5 ±0.5 = C9               |      |      |    |
| DC-LINK MKP 6 = DCP6     |   |   |   |                       |   |                     |   |   |    | Version A1 = 1A            |    |    |    | 6 -2 = SD                   |      |      |    |
| DC-LINK HC = DCHC        |   |   |   |                       |   |                     |   |   |    | Version A1.1.1 = 1B        |    |    |    | 16 ±1 = P1                  |      |      |    |
|                          |   |   |   |                       |   |                     |   |   |    | Version A2 = 2A            |    |    |    | ...                         |      |      |    |
|                          |   |   |   |                       |   |                     |   |   |    | ...                        |    |    |    |                             |      |      |    |

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.