

## Metallized Polypropylene (PP) - Capacitors for DC-Link Applications. Capacitances from 1.0 $\mu\text{F}$ to 400 $\mu\text{F}$ . Rated Voltages from 400 VDC to 1500 VDC.

### Special Features

- Capacitances up to 400  $\mu\text{F}$
- High volume/capacitance ratio
- Excellent self-healing properties
- Very low dissipation factor
- High reliability
- 2-pin, 4-pin or plate contact configuration
- AEC-Q200 qualified
- According to RoHS 2011/65/EU

### Typical Applications

As intermediate circuit capacitor e.g. in high power converter technology, power supplies, solar inverters, e-mobility (battery chargers, motor drives & power train) etc.

### Construction

#### Dielectric:

Polypropylene (PP) film

#### Capacitor electrodes:

Vacuum-deposited

#### Internal construction:



#### Encapsulation:

Solvent-resistant, flame-retardant plastic case with epoxy resin seal, UL 94 V-0

#### Terminations:

Tinned wire or plates.

#### Marking:

Colour: Red. Marking: Black.

### Packing

Packing units at the end of the catalogue

### Electrical Data

**Capacitance range:** 1  $\mu\text{F}$  to 400  $\mu\text{F}$   
(intermediate values on request)

**Rated voltages:** 400 VDC, 500 VDC, 600 VDC, 800 VDC, 900 VDC, 1100 VDC, 1300 VDC, 1500 VDC

**Capacitance tolerances:**  $\pm 20\%$ ,  $\pm 10\%$ ,  $\pm 5\%$

#### Operating temperature range:

$-55^\circ\text{C}$  to  $+105^\circ\text{C}$  (hot spot including self-heating)

**Climatic test category:** 55/085/56

in accordance with IEC

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

$\geq 30\,000 \text{ sec } (M\Omega \times \mu\text{F})$

Measuring voltage: 100 V/1 min.

**Dielectric absorption:** 0.05 %

#### Voltage and current derating:

A derating factor of 1.35% per K must be applied from  $+85^\circ\text{C}$  for DC voltages and from  $+70^\circ\text{C}$  for AC currents ( $I_{\text{rms}}$ ). Additionally a derating factor of 4.5% per K must be applied from  $+85^\circ\text{C}$  for AC currents ( $I_{\text{rms}}$ )

**Reliability:** Operational life  $> 100\,000$  hours ( $U_r$  and  $70^\circ\text{C}$ )

Failure rate  $\lambda_0$  ( $0.5 \times U_r$  and  $40^\circ\text{C}$ )

| $\Pi =  C_N [\mu\text{F}] \times U_r [\text{V}] $ | $\lambda_0$        |
|---|--------------------|
| $\Pi \leq 10\,000$                                | $< 2 \text{ fit}$  |
| $10\,000 < \Pi \leq 25\,000$                      | $< 5 \text{ fit}$  |
| $25\,000 < \Pi \leq 50\,000$                      | $< 10 \text{ fit}$ |
| $50\,000 < \Pi \leq 100\,000$                     | $< 20 \text{ fit}$ |
| $\Pi > 100\,000$                                  | $< 30 \text{ fit}$ |

#### Test voltage:

$\leq 500 \text{ VDC}$ :  $1.5 U_r$ , 2sec

$> 500 \text{ VDC}$ :  $1.2 U_r$ , 2sec

#### Specific dissipation:

| Box size<br>WxHxL in mm | Specific dissipation in Watts per K<br>above the ambient temperature |
|-------------------------|--|
| 9x19x31.5               | 0.021  |
| 11x21x31.5              | 0.025  |
| 13x24x31.5              | 0.030  |
| 15x26x31.5              | 0.034  |
| 17x29x31.5              | 0.039  |
| 17x34.5x31.5            | 0.044  |
| 20x39.5x31.5            | 0.053  |
| 13x24x41.5              | 0.037  |
| 15x26x41.5              | 0.042  |
| 17x29x41.5              | 0.048  |
| 19x32x41.5              | 0.054  |
| 20x39.5x41.5            | 0.065  |
| 24x45.5x41.5            | 0.080  |
| 28x38x41.5              | 0.076  |
| 31x46x41.5              | 0.092  |
| 35x50x41.5              | 0.106  |
| 40x55x41.5              | 0.123  |
| 25x45x57                | 0.102  |
| 30x45x57                | 0.113  |
| 35x50x57                | 0.132  |
| 45x55x57                | 0.164  |
| 45x65x57                | 0.184  |

For further details and graphs please refer to Technical Information.

#### Dissipation factors at $+20^\circ\text{C}$ : $\tan \delta \times 10^{-4}$

| PCM  | 400 VDC |        | 500 VDC |        | 600 VDC |        | 800 VDC |        | 900 VDC |        | 1100 VDC |        | 1300 VDC |        | 1500 VDC |        |
|------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|----------|--------|----------|--------|----------|--------|
|      | 1 kHz   | 10 kHz | 1 kHz   | 10 kHz | 1 kHz   | 10 kHz | 1 kHz   | 10 kHz | 1 kHz   | 10 kHz | 1 kHz    | 10 kHz | 1 kHz    | 10 kHz | 1 kHz    | 10 kHz |
| 27.5 | 15      | 160    | 15      | 130    | 12      | 120    | 10      | 90     | 10      | 80     | 10       | 60     | 7        | 50     | 7        | 40     |
| 37.5 | 60      | 350    | 30      | 240    | 21      | 150    | 18      | 170    | 16      | 150    | 14       | 100    | 12       | 90     | 12       | 90     |
| 52.5 | 80      | 550    | 80      | 460    | 40      | 300    | 35      | 250    | 31      | 200    | 30       | 170    | 23       | 150    | 23       | 150    |

#### Maximum pulse rise time:

| PCM  | max. pulse rise time V/ $\mu\text{sec}$ at $T_A < 40^\circ\text{C}$ |         |         |         |         |          |          |          |
|------|---|---------|---------|---------|---------|----------|----------|----------|
|      | 400 VDC   | 500 VDC | 600 VDC | 800 VDC | 900 VDC | 1100 VDC | 1300 VDC | 1500 VDC |
| 27.5 | 11  | 15      | 27      | 29      | 35      | 43       | 50       | 59       |
| 37.5 | 8   | 10      | 19      | 21      | 22      | 29       | 35       | 41       |
| 52.5 | 5   | 7       | 13      | 15      | 18      | 21       | 25       | 29       |



## Continuation

### General Data

| Capacitance | 400 VDC (70° C) / 300 VDC (85° C) / 220 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number  |
|-------------|--|------|------|-------|-----|---------------------|-----------------------------------|---------------------|--------------|
|             | W  | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |              |
| 1 µF        | 9  | 19   | 31.5 | 27.5  | 2   | 11                  | 1                                 | 238.7               | DCP4G041006A |
| 2 "         | 9  | 19   | 31.5 | 27.5  | 2   | 22                  | 1.5                               | 119.4               | DCP4G042006A |
| 3 "         | 9  | 19   | 31.5 | 27.5  | 2   | 33                  | 1.5                               | 79.6                | DCP4G043006A |
| 4 "         | 9  | 19   | 31.5 | 27.5  | 2   | 44                  | 2                                 | 59.7                | DCP4G044006A |
| 5 "         | 9  | 19   | 31.5 | 27.5  | 2   | 55                  | 2                                 | 47.7                | DCP4G045006A |
| 7 "         | 9  | 19   | 31.5 | 27.5  | 2   | 77                  | 2.5                               | 34.1                | DCP4G047006A |
| 10 µF       | 11   | 21   | 31.5 | 27.5  | 2/4 | 110                 | 3.5                               | 23.9                | DCP4G051006B |
| 15 "        | 13   | 24   | 31.5 | 27.5  | 2/4 | 165                 | 4.5                               | 15.9                | DCP4G051506D |
| 20 "        | 15   | 26   | 31.5 | 27.5  | 2/4 | 220                 | 5.5                               | 11.9                | DCP4G052006F |
| 22 "        | 17   | 29   | 31.5 | 27.5  | 2/4 | 242                 | 6                                 | 9.8                 | DCP4G052206G |
| 25 "        | 17   | 29   | 31.5 | 27.5  | 2/4 | 275                 | 7                                 | 8.6                 | DCP4G052506G |
|             | 15   | 26   | 41.5 | 37.5  | 2/4 | 200                 | 6.5                               | 10                  | DCP4G052507D |
| 30 "        | 17   | 34.5 | 31.5 | 27.5  | 2/4 | 330                 | 8                                 | 7.2                 | DCP4G053006I |
|             | 17   | 29   | 41.5 | 37.5  | 2/4 | 240                 | 7.5                               | 8.5                 | DCP4G053007E |
| 40 "        | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 440                 | 10                                | 5.4                 | DCP4G054006J |
|             | 19   | 32   | 41.5 | 37.5  | 2/4 | 320                 | 9.5                               | 6                   | DCP4G054007F |
| 50 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 400                 | 11                                | 5.4                 | DCP4G055007G |
| 60 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 480                 | 11.5                              | 4.8                 | DCP4G056007G |
| 70 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 560                 | 13                                | 4.7                 | DCP4G057007H |
| 80 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 640                 | 14                                | 4.1                 | DCP4G058007H |
| 90 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 720                 | 15                                | 3.6                 | DCP4G059007H |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 720                 | 15                                | 3.6                 | DCP4G059007L |
| 100 µF      | 31   | 46   | 41.5 | 37.5  | 2/4 | 800                 | 18                                | 2.8                 | DCP4G061007I |
| 120 "       | 31   | 46   | 41.5 | 37.5  | 2/4 | 960                 | 20                                | 2.3                 | DCP4G061207I |
| 140 "       | 35   | 50   | 41.5 | 37.5  | 2/4 | 1120                | 22.5                              | 2.1                 | DCP4G061407J |
| 150 "       | 35   | 50   | 41.5 | 37.5  | 2/4 | 1200                | 23                                | 2                   | DCP4G061507J |
|             | 25   | 45   | 57   | 52.5  | 4   | 750                 | 20                                | 2.6                 | DCP4G061509D |
| 160 "       | 40   | 55   | 41.5 | 37.5  | 2/4 | 1280                | 24.5                              | 2                   | DCP4G061607K |
|             | 25   | 45   | 57   | 52.5  | 4   | 800                 | 21                                | 2.3                 | DCP4G061609D |
| 180 "       | 40   | 55   | 41.5 | 37.5  | 2/4 | 1440                | 26                                | 1.8                 | DCP4G061807K |
|             | 30   | 45   | 57   | 52.5  | 4   | 900                 | 23.5                              | 2                   | DCP4G061809E |
| 200 "       | 40   | 55   | 41.5 | 37.5  | 2/4 | 1600                | 27.5                              | 1.6                 | DCP4G062007K |
|             | 30   | 45   | 57   | 52.5  | 4   | 1000                | 25                                | 1.8                 | DCP4G062009E |
| 220 "       | 35   | 50   | 57   | 52.5  | 4   | 1100                | 27                                | 1.8                 | DCP4G062209F |
| 250 "       | 45   | 55   | 57   | 52.5  | 4   | 1250                | 32                                | 1.6                 | DCP4G062509H |
| 270 "       | 45   | 55   | 57   | 52.5  | 4   | 1350                | 33.5                              | 1.5                 | DCP4G062709H |
| 300 "       | 45   | 55   | 57   | 52.5  | 4   | 1500                | 35                                | 1.3                 | DCP4G063009H |
| 330 "       | 45   | 65   | 57   | 52.5  | 4   | 1650                | 37                                | 1.2                 | DCP4G063309J |
| 350 "       | 45   | 65   | 57   | 52.5  | 4   | 1750                | 40                                | 1.1                 | DCP4G063509J |
| 370 "       | 45   | 65   | 57   | 52.5  | 4   | 1850                | 41.5                              | 1.1                 | DCP4G063709J |
| 400 "       | 45   | 65   | 57   | 52.5  | 4   | 2000                | 43                                | 1                   | DCP4G064009J |

\* General guide

New values and box sizes. The box sizes according to main catalogue 2019 are still available on request.

\* Permissible I<sub>rms</sub> at 10° C internal temperature rise (general guide)

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

Dims. in mm.

#### Part number completion:

Version code: 2-pin = D2  
 4-pin = D4  
 Tolerance: 20 % = M  
 10 % = K  
 5 % = J  
 Packing: bulk = S  
 Pin length: 6-2 = SD  
 Taped version see page 161.

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## Continuation

### General Data

| Capacitance | 500 VDC (70° C) / 400 VDC (85° C) / 290 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number       |
|-------------|--|------|------|-------|-----|---------------------|-----------------------------------|---------------------|-------------------|
|             | W  | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |                   |
| 1 µF        | 9  | 19   | 31.5 | 27.5  | 2   | 15                  | 1                                 | 238.7               | DCP4H141006A_____ |
| 2 "         | 9  | 19   | 31.5 | 27.5  | 2   | 30                  | 1.5                               | 119.4               | DCP4H142006A_____ |
| 3 "         | 9  | 19   | 31.5 | 27.5  | 2   | 45                  | 1.5                               | 79.6                | DCP4H143006A_____ |
| 4 "         | 9  | 19   | 31.5 | 27.5  | 2   | 60                  | 1.8                               | 63.7                | DCP4H144006A_____ |
| 5 "         | 9  | 19   | 31.5 | 27.5  | 2   | 75                  | 2.5                               | 47.7                | DCP4H145006A_____ |
| 7 "         | 11   | 21   | 31.5 | 27.5  | 2/4 | 105                 | 3                                 | 34.1                | DCP4H147006B_____ |
| 8 "         | 13   | 24   | 31.5 | 27.5  | 2/4 | 120                 | 3                                 | 29.8                | DCP4H148006D_____ |
| 10 µF       | 13   | 24   | 31.5 | 27.5  | 2/4 | 150                 | 4                                 | 23.9                | DCP4H151006D_____ |
| 12 "        | 15   | 26   | 31.5 | 27.5  | 2/4 | 180                 | 4                                 | 19.9                | DCP4H151206F_____ |
| 15 "        | 17   | 29   | 31.5 | 27.5  | 2/4 | 225                 | 5                                 | 15.9                | DCP4H151506G_____ |
|             | 15   | 26   | 41.5 | 37.5  | 2/4 | 150                 | 4.3                               | 22.3                | DCP4H151507D_____ |
| 18 "        | 17   | 29   | 31.5 | 27.5  | 2/4 | 270                 | 6                                 | 9.5                 | DCP4H151806G_____ |
| 20 "        | 17   | 34.5 | 31.5 | 27.5  | 2/4 | 300                 | 6                                 | 11.9                | DCP4H152006I_____ |
|             | 17   | 29   | 41.5 | 37.5  | 2/4 | 200                 | 5.4                               | 16.8                | DCP4H152007E_____ |
| 22 "        | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 330                 | 7                                 | 10.9                | DCP4H152206J_____ |
| 25 "        | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 375                 | 7.5                               | 9.5                 | DCP4H152506J_____ |
|             | 19   | 32   | 41.5 | 37.5  | 2/4 | 250                 | 6.3                               | 13.4                | DCP4H152507F_____ |
| 30 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 300                 | 9                                 | 7.9                 | DCP4H153007G_____ |
| 35 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 350                 | 8.5                               | 9.1                 | DCP4H153507G_____ |
| 40 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 400                 | 10                                | 5.7                 | DCP4H154007G_____ |
| 50 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 500                 | 13                                | 4.8                 | DCP4H155007H_____ |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 500                 | 13                                | 4.8                 | DCP4H155007L_____ |
| 55 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 550                 | 14                                | 4                   | DCP4H155507H_____ |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 550                 | 14                                | 4                   | DCP4H155507L_____ |
| 60 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 600                 | 14                                | 4.7                 | DCP4H156007I_____ |
| 70 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 700                 | 16.5                              | 3.9                 | DCP4H157007I_____ |
| 80 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 800                 | 17.5                              | 3.4                 | DCP4H158007I_____ |
| 90 "        | 35   | 50   | 41.5 | 37.5  | 2/4 | 900                 | 19                                | 3                   | DCP4H159007J_____ |
| 100 µF      | 35   | 50   | 41.5 | 37.5  | 2/4 | 1000                | 20                                | 2.7                 | DCP4H161007J_____ |
|             | 25   | 45   | 57   | 52.5  | 4   | 700                 | 14.3                              | 5                   | DCP4H161009D_____ |
| 120 "       | 40   | 55   | 41.5 | 37.5  | 2/4 | 1200                | 22.5                              | 2.7                 | DCP4H161207K_____ |
|             | 30   | 45   | 57   | 52.5  | 4   | 840                 | 16.5                              | 4.2                 | DCP4H161209E_____ |
| 130 "       | 40   | 55   | 41.5 | 37.5  | 2/4 | 1300                | 23                                | 2.4                 | DCP4H161307K_____ |
| 140 "       | 35   | 50   | 57   | 52.5  | 4   | 980                 | 21.5                              | 2.8                 | DCP4H161409F_____ |
| 150 "       | 35   | 50   | 57   | 52.5  | 4   | 1050                | 22.5                              | 2.7                 | DCP4H161509F_____ |
| 160 "       | 45   | 55   | 57   | 52.5  | 4   | 1120                | 25.5                              | 2.5                 | DCP4H161609H_____ |
| 180 "       | 45   | 55   | 57   | 52.5  | 4   | 1260                | 27                                | 2.2                 | DCP4H161809H_____ |
| 200 "       | 45   | 55   | 57   | 52.5  | 4   | 1400                | 28.5                              | 2                   | DCP4H162009H_____ |
| 210 "       | 45   | 55   | 57   | 52.5  | 4   | 1470                | 29.5                              | 1.9                 | DCP4H162109H_____ |
| 220 "       | 45   | 65   | 57   | 52.5  | 4   | 1540                | 32                                | 1.8                 | DCP4H162209J_____ |
| 240 "       | 45   | 65   | 57   | 52.5  | 4   | 1680                | 33.5                              | 1.7                 | DCP4H162409J_____ |

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Dims. in mm.

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#### Part number completion:

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 4-pin = D4  
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 10 % = K  
 5 % = J  
 Packing: bulk = S  
 Pin length: 6-2 = SD  
 Taped version see page 161.

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## Continuation

### General Data

| Capacitance | 600 VDC (70° C) / 450 VDC (85° C) / 320 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number  |
|-------------|--|------|------|-------|-----|---------------------|-----------------------------------|---------------------|--------------|
|             | W  | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |              |
| 1 µF        | 9  | 19   | 31.5 | 27.5  | 2   | 27                  | 1.5                               | 106.9               | DCP4I041006A |
| 2 "         | 9  | 19   | 31.5 | 27.5  | 2   | 54                  | 2                                 | 56                  | DCP4I042006A |
| 3 "         | 9  | 19   | 31.5 | 27.5  | 2   | 81                  | 2.5                               | 35.6                | DCP4I043006A |
| 4 "         | 11   | 21   | 31.5 | 27.5  | 2/4 | 108                 | 3                                 | 26.7                | DCP4I044006B |
| 5 "         | 13   | 24   | 31.5 | 27.5  | 2/4 | 135                 | 3.5                               | 22                  | DCP4I045006D |
| 7 "         | 15   | 26   | 31.5 | 27.5  | 2/4 | 189                 | 4.5                               | 16                  | DCP4I047006F |
| 8 "         | 15   | 26   | 31.5 | 27.5  | 2/4 | 216                 | 5                                 | 13.4                | DCP4I048006F |
| 10 µF       | 17   | 29   | 31.5 | 27.5  | 2/4 | 270                 | 6                                 | 11                  | DCP4I051006G |
|             | 13   | 24   | 41.5 | 37.5  | 2/4 | 190                 | 5                                 | 17.6                | DCP4I051007C |
| 12 "        | 17   | 29   | 31.5 | 27.5  | 2/4 | 324                 | 6.5                               | 8.9                 | DCP4I051206G |
| 15 "        | 17   | 34.5 | 31.5 | 27.5  | 2/4 | 405                 | 8                                 | 7                   | DCP4I051506I |
|             | 17   | 29   | 41.5 | 37.5  | 2/4 | 285                 | 6.5                               | 11.8                | DCP4I051507E |
| 18 "        | 20   | 39.5 | 31.5 | 27.5  | 2/2 | 486                 | 9.5                               | 5.9                 | DCP4I051806J |
| 20 "        | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 540                 | 10                                | 5.3                 | DCP4I052006J |
|             | 19   | 32   | 41.5 | 37.5  | 2/4 | 380                 | 10.5                              | 4.9                 | DCP4I052007F |
| 22 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 418                 | 11                                | 5.4                 | DCP4I052207G |
| 25 "        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 475                 | 11.5                              | 5                   | DCP4I052507G |
| 30 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 570                 | 14                                | 4.1                 | DCP4I053007H |
| 35 "        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 665                 | 14.5                              | 3.8                 | DCP4I053507H |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 665                 | 14.5                              | 3.8                 | DCP4I053507L |
| 40 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 760                 | 16.5                              | 3.3                 | DCP4I054007I |
| 45 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 855                 | 17                                | 3.2                 | DCP4I054507I |
| 50 "        | 35   | 50   | 41.5 | 37.5  | 2/4 | 950                 | 19                                | 2.9                 | DCP4I055007J |
| 60 "        | 35   | 50   | 41.5 | 37.5  | 2/4 | 1140                | 17.5                              | 3.4                 | DCP4I056007J |
|             | 25   | 45   | 57   | 52.5  | 2/4 | 780                 | 14.5                              | 4.9                 | DCP4I056009D |
| 70 "        | 40   | 55   | 41.5 | 37.5  | 2/4 | 1330                | 20                                | 3.1                 | DCP4I057007K |
|             | 30   | 45   | 57   | 52.5  | 4   | 910                 | 16.5                              | 4.2                 | DCP4I057009E |
| 80 "        | 40   | 55   | 41.5 | 37.5  | 2/4 | 1520                | 22                                | 2.6                 | DCP4I058007K |
|             | 30   | 45   | 57   | 52.5  | 4   | 1040                | 17.8                              | 3.6                 | DCP4I058009E |
| 90 "        | 35   | 50   | 57   | 52.5  | 4   | 1170                | 23.5                              | 1.9                 | DCP4I059009F |
| 100 µF      | 45   | 55   | 57   | 52.5  | 4   | 1300                | 25                                | 2.6                 | DCP4I061009H |
| 120 "       | 45   | 65   | 57   | 52.5  | 4   | 1560                | 28                                | 2.3                 | DCP4I061209J |
| 140 "       | 45   | 65   | 57   | 52.5  | 4   | 1820                | 31                                | 1.9                 | DCP4I061409J |
| 150 "       | 45   | 65   | 57   | 52.5  | 4   | 1950                | 33                                | 1.7                 | DCP4I061509J |

\* General guide

New values and box sizes. The box sizes according to main catalogue 2019 are still available on request.

\* Permissible I<sub>rms</sub> at 10° C internal temperature rise (general guide)

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

Dims. in mm.

Part number completion:

Version code: 2-pin = D2  
4-pin = D4  
Tolerance: 20 % = M  
10 % = K  
5 % = J  
Packing: bulk = S  
Pin length: 6-2 = SD  
Taped version see page 161.

#### 2-pin version



| PCM  | d   |
|------|-----|
| 27.5 | 0.8 |
| 37.5 | 1   |

| W  | PCM  | b    | d   | c   |
|----|------|------|-----|-----|
| 11 | 27.5 | 5    | 0.8 | 0.4 |
| 13 | 27.5 | 7.5  | 0.8 | 0.4 |
| 15 | 27.5 | 7.5  | 0.8 | 0.4 |
| 17 | 27.5 | 10   | 0.8 | 0.4 |
| 20 | 27.5 | 12.5 | 0.8 | 0.4 |
| 19 | 37.5 | 10   | 1   | 0.4 |
| 20 | 37.5 | 12.5 | 1   | 0.4 |
| 24 | 37.5 | 12.5 | 1   | 0.4 |
| 28 | 37.5 | 10   | 1   | 0.4 |
| 31 | 37.5 | 20   | 1   | 0.4 |
| 35 | 37.5 | 20   | 1   | 0.4 |
| 40 | 37.5 | 20   | 1   | 0.4 |
| 25 | 52.5 | 20   | 1.2 | 0.8 |
| 30 | 52.5 | 20   | 1.2 | 0.8 |
| 35 | 52.5 | 20   | 1.2 | 0.8 |
| 45 | 52.5 | 20   | 1.2 | 0.8 |

#### 4-pin version



Rights reserved to amend design data without prior notification.

## Continuation

### General Data

| Capacitance | W  | H    | L    | PCM** | Pin | $I_S$<br>A | $I_{rms}^*$ (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ | Part number  |
|-------------|----|------|------|-------|-----|------------|----------------------------|---------------------|--------------|
| 1 μF        | 9  | 19   | 31.5 | 27.5  | 2   | 29         | 1.7                        | 73.2                | DCP4L041006A |
| 2 "         | 9  | 19   | 31.5 | 27.5  | 2   | 58         | 2.5                        | 36.6                | DCP4L042006A |
| 3 "         | 11 | 21   | 31.5 | 27.5  | 2/4 | 87         | 3                          | 24.4                | DCP4L043006B |
| 4 "         | 13 | 24   | 31.5 | 27.5  | 2/4 | 116        | 4                          | 18.3                | DCP4L044006D |
| 5 "         | 13 | 24   | 31.5 | 27.5  | 2/4 | 145        | 4.5                        | 14.6                | DCP4L045006D |
| 7 "         | 17 | 29   | 31.5 | 27.5  | 2/4 | 203        | 6                          | 10.5                | DCP4L047006G |
| 8 "         | 17 | 29   | 31.5 | 27.5  | 2/4 | 232        | 6.5                        | 9.2                 | DCP4L048006G |
| 10 μF       | 17 | 34.5 | 31.5 | 27.5  | 2/4 | 290        | 8                          | 7.3                 | DCP4L051006I |
|             | 17 | 29   | 41.5 | 37.5  | 2/4 | 210        | 7.5                        | 8.5                 | DCP4L051007E |
| 12 "        | 20 | 39.5 | 31.5 | 27.5  | 2/4 | 348        | 9.5                        | 6.1                 | DCP4L051206J |
| 15 "        | 20 | 39.5 | 31.5 | 27.5  | 2/4 | 435        | 10.5                       | 4.9                 | DCP4L051506J |
|             | 19 | 32   | 41.5 | 37.5  | 2/4 | 315        | 8.5                        | 7.5                 | DCP4L051507F |
| 18 "        | 20 | 39.5 | 41.5 | 37.5  | 2/4 | 378        | 9.5                        | 7.2                 | DCP4L051807G |
| 20 "        | 20 | 39.5 | 41.5 | 37.5  | 2/4 | 420        | 10                         | 6.2                 | DCP4L052007G |
| 22 "        | 20 | 39.5 | 41.5 | 37.5  | 2/4 | 462        | 10.5                       | 5.9                 | DCP4L052207G |
| 25 "        | 24 | 45.5 | 41.5 | 37.5  | 2/4 | 525        | 12.5                       | 5                   | DCP4L052507H |
| 30 "        | 24 | 45.5 | 41.5 | 37.5  | 2/4 | 630        | 14                         | 4.1                 | DCP4L053007H |
|             | 28 | 38   | 41.5 | 37.5  | 2/4 | 630        | 14                         | 4.1                 | DCP4L053007L |
| 35 "        | 31 | 46   | 41.5 | 37.5  | 2/4 | 735        | 15.5                       | 3.8                 | DCP4L053507I |
| 40 "        | 31 | 46   | 41.5 | 37.5  | 2/4 | 840        | 16.5                       | 3.3                 | DCP4L054007I |
| 45 "        | 35 | 50   | 41.5 | 37.5  | 2/4 | 945        | 17.5                       | 3.4                 | DCP4L054507J |
| 50 "        | 35 | 50   | 41.5 | 37.5  | 2/4 | 1050       | 19                         | 3                   | DCP4L055007J |
|             | 25 | 45   | 57   | 52.5  | 4   | 750        | 18.5                       | 3                   | DCP4L055009D |
| 60 "        | 40 | 55   | 41.5 | 37.5  | 2/4 | 1260       | 21.5                       | 2.7                 | DCP4L056007K |
|             | 30 | 45   | 57   | 52.5  | 4   | 900        | 20.5                       | 2.7                 | DCP4L056009E |
| 65 "        | 35 | 50   | 57   | 52.5  | 4   | 975        | 22.5                       | 2.2                 | DCP4L056509F |
| 70 "        | 45 | 55   | 57   | 52.5  | 4   | 1050       | 23.5                       | 3                   | DCP4L057009H |
| 75 "        | 45 | 55   | 57   | 52.5  | 4   | 1125       | 24                         | 2.9                 | DCP4L057509H |
| 80 "        | 45 | 55   | 57   | 52.5  | 4   | 1200       | 24.5                       | 3                   | DCP4L058009H |
| 90 "        | 45 | 65   | 57   | 52.5  | 4   | 1350       | 25.5                       | 2.5                 | DCP4L059009J |
| 100 μF      | 45 | 65   | 57   | 52.5  | 4   | 1500       | 26.5                       | 2.3                 | DCP4L061009J |
| 115 "       | 45 | 65   | 57   | 52.5  | 4   | 1725       | 28                         | 2.1                 | DCP4L061159J |

\* General guide

New values and box sizes. The box sizes according to main catalogue 2019 are still available on request.

\* Permissible  $I_{rms}$  at 10° C internal temperature rise (general guide)

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

Dims. in mm.

| Part number completion:     |                                 |
|-----------------------------|---------------------------------|
| Version code:               | 2-pin = D2<br>4-pin = D4        |
| Tolerance:                  | 20 % = M<br>10 % = K<br>5 % = J |
| Packing:                    | bulk = S                        |
| Pin length:                 | 6-2 = SD                        |
| Taped version see page 161. |                                 |

#### 2-pin version



| PCM  | d   |
|------|-----|
| 27.5 | 0.8 |
| 37.5 | 1   |

#### 4-pin version



| W  | PCM  | b    | d   | c   |
|----|------|------|-----|-----|
| 11 | 27.5 | 5    | 0.8 | 0.4 |
| 13 | 27.5 | 7.5  | 0.8 | 0.4 |
| 15 | 27.5 | 7.5  | 0.8 | 0.4 |
| 17 | 27.5 | 10   | 0.8 | 0.4 |
| 20 | 27.5 | 12.5 | 0.8 | 0.4 |
| 19 | 37.5 | 10   | 1   | 0.4 |
| 20 | 37.5 | 12.5 | 1   | 0.4 |
| 24 | 37.5 | 12.5 | 1   | 0.4 |
| 28 | 37.5 | 10   | 1   | 0.4 |
| 31 | 37.5 | 20   | 1   | 0.4 |
| 35 | 37.5 | 20   | 1   | 0.4 |
| 40 | 37.5 | 20   | 1   | 0.4 |
| 25 | 52.5 | 20   | 1.2 | 0.8 |
| 30 | 52.5 | 20   | 1.2 | 0.8 |
| 35 | 52.5 | 20   | 1.2 | 0.8 |
| 45 | 52.5 | 20   | 1.2 | 0.8 |

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## Continuation

### General Data

| Capacitance | 900 VDC (70° C) / 760 VDC (85° C) / 550 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number       |
|-------------|--|------|------|-------|-----|---------------------|-----------------------------------|---------------------|-------------------|
|             | W  | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |                   |
| 1 µF        | 9  | 19   | 31.5 | 27.5  | 2   | 35                  | 2                                 | 66.1                | DCP4N041006A_____ |
| 2 „         | 11   | 21   | 31.5 | 27.5  | 2/4 | 70                  | 2.5                               | 44                  | DCP4N042006B_____ |
| 3 „         | 13   | 24   | 31.5 | 27.5  | 2/4 | 105                 | 4                                 | 22                  | DCP4N043006D_____ |
| 4 „         | 13   | 24   | 31.5 | 27.5  | 2/4 | 140                 | 4.5                               | 16.5                | DCP4N044006D_____ |
| 5 „         | 17   | 29   | 31.5 | 27.5  | 2/4 | 175                 | 4.5                               | 18                  | DCP4N045006G_____ |
| 7 „         | 17   | 29   | 31.5 | 27.5  | 2/4 | 245                 | 6.5                               | 9.4                 | DCP4N047006G_____ |
| 8 „         | 17   | 34.5 | 31.5 | 27.5  | 2/4 | 280                 | 7.5                               | 8.3                 | DCP4N048006I_____ |
| 10 µF       | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 350                 | 10                                | 5.3                 | DCP4N051006J_____ |
|             | 19   | 32   | 41.5 | 37.5  | 2/4 | 220                 | 9                                 | 6.7                 | DCP4N051007F_____ |
| 15 „        | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 330                 | 10.5                              | 5.8                 | DCP4N051507G_____ |
| 20 „        | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 440                 | 13                                | 4.8                 | DCP4N052007H_____ |
| 22 „        | 28   | 38   | 41.5 | 37.5  | 2/4 | 440                 | 13                                | 4.8                 | DCP4N052007L_____ |
|             | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 484                 | 14                                | 4.1                 | DCP4N052207H_____ |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 484                 | 14                                | 4.1                 | DCP4N052207L_____ |
| 25 „        | 31   | 46   | 41.5 | 37.5  | 2/4 | 550                 | 15.5                              | 3.8                 | DCP4N052507I_____ |
| 30 „        | 31   | 46   | 41.5 | 37.5  | 2/4 | 660                 | 16.5                              | 3.4                 | DCP4N053007I_____ |
|             | 25   | 45   | 57   | 52.5  | 4   | 540                 | 15                                | 4.5                 | DCP4N053009D_____ |
| 35 „        | 35   | 50   | 41.5 | 37.5  | 2/4 | 770                 | 18                                | 3.2                 | DCP4N053507J_____ |
|             | 25   | 45   | 57   | 52.5  | 4   | 630                 | 16                                | 4                   | DCP4N053509D_____ |
| 40 „        | 40   | 55   | 41.5 | 37.5  | 2/4 | 880                 | 19.5                              | 3.2                 | DCP4N054007K_____ |
|             | 30   | 45   | 57   | 52.5  | 4   | 720                 | 18                                | 3.5                 | DCP4N054009E_____ |
| 50 „        | 35   | 50   | 57   | 52.5  | 4   | 900                 | 22                                | 3.3                 | DCP4N055009F_____ |
| 60 „        | 45   | 55   | 57   | 52.5  | 4   | 1080                | 23                                | 3                   | DCP4N056009H_____ |
| 70 „        | 45   | 65   | 57   | 52.5  | 4   | 1260                | 24.5                              | 3.3                 | DCP4N057009J_____ |
| 80 „        | 45   | 65   | 57   | 52.5  | 4   | 1440                | 25.5                              | 2.8                 | DCP4N058009J_____ |

\* General guide

New values and box sizes. The box sizes according to main catalogue 2019 are still available on request.

\* Permissible I<sub>rms</sub> at 10° C internal temperature rise (general guide)

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

Dims. in mm.

| Part number completion:     |       |      |
|-----------------------------|-------|------|
| Version code:               | 2-pin | = D2 |
|                             | 4-pin | = D4 |
| Tolerance:                  | 20 %  | = M  |
|                             | 10 %  | = K  |
|                             | 5 %   | = J  |
| Packing:                    | bulk  | = S  |
| Pin length:                 | 6-2   | = SD |
| Taped version see page 161. |       |      |

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Continuation page 139

## Continuation

### General Data

| Capacitance | 1100 VDC (70° C) / 920 VDC (85° C) / 670 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number  |
|-------------|---|------|------|-------|-----|---------------------|-----------------------------------|---------------------|--------------|
|             | W   | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |              |
| 1 µF        | 9   | 19   | 31.5 | 27.5  | 2   | 43                  | 2                                 | 86                  | DCP4P041006A |
| 2 "         | 13  | 24   | 31.5 | 27.5  | 2/4 | 86                  | 4                                 | 19                  | DCP4P042006D |
| 3 "         | 15  | 26   | 31.5 | 27.5  | 2/4 | 129                 | 5                                 | 13.6                | DCP4P043006F |
| 4 "         | 17  | 29   | 31.5 | 27.5  | 2/4 | 172                 | 6                                 | 10.8                | DCP4P044006G |
| 5 "         | 17  | 34.5 | 31.5 | 27.5  | 2/4 | 215                 | 7.5                               | 7.8                 | DCP4P045006I |
| 7 "         | 20  | 39.5 | 31.5 | 27.5  | 2/4 | 301                 | 9                                 | 6.5                 | DCP4P047006J |
|             | 19  | 32   | 41.5 | 37.5  | 2/4 | 203                 | 7.5                               | 10                  | DCP4P047007F |
| 8 "         | 20  | 39.5 | 41.5 | 37.5  | 2/4 | 232                 | 8                                 | 10                  | DCP4P048007G |
| 10 µF       | 20  | 39.5 | 41.5 | 37.5  | 2/4 | 290                 | 9.5                               | 7.2                 | DCP4P051007G |
| 12 "        | 24  | 45.5 | 41.5 | 37.5  | 2/4 | 348                 | 11                                | 6.6                 | DCP4P051207H |
| 15 "        | 24  | 45.5 | 41.5 | 37.5  | 2/4 | 435                 | 12                                | 5.6                 | DCP4P051507H |
|             | 28  | 38   | 41.5 | 37.5  | 2/4 | 435                 | 12                                | 5.6                 | DCP4P051507L |
| 18 "        | 31  | 46   | 41.5 | 37.5  | 2/4 | 522                 | 13.5                              | 5                   | DCP4P051807I |
| 20 "        | 35  | 50   | 41.5 | 37.5  | 2/4 | 580                 | 15                                | 4.7                 | DCP4P052007J |
|             | 25  | 45   | 57   | 52.5  | 4   | 420                 | 14.5                              | 4.9                 | DCP4P052009D |
| 22 "        | 35  | 50   | 41.5 | 37.5  | 2/4 | 638                 | 15.5                              | 4.4                 | DCP4P052207J |
|             | 25  | 45   | 57   | 52.5  | 4   | 462                 | 15                                | 4.5                 | DCP4P052209D |
| 25 "        | 40  | 55   | 41.5 | 37.5  | 2/4 | 725                 | 16.5                              | 4.6                 | DCP4P052507K |
|             | 30  | 45   | 57   | 52.5  | 4   | 525                 | 16                                | 4.4                 | DCP4P052509E |
| 30 "        | 35  | 50   | 57   | 52.5  | 4   | 630                 | 17.5                              | 4.4                 | DCP4P053009F |
| 35 "        | 35  | 50   | 57   | 52.5  | 4   | 735                 | 18                                | 4                   | DCP4P053509F |
| 40 "        | 35  | 50   | 57   | 52.5  | 4   | 840                 | 18                                | 4.3                 | DCP4P054009F |
| 45 "        | 45  | 55   | 57   | 52.5  | 4   | 945                 | 20                                | 4.1                 | DCP4P054509H |
| 50 "        | 45  | 65   | 57   | 52.5  | 4   | 1050                | 21                                | 4.1                 | DCP4P055009J |
| 60 "        | 45  | 65   | 57   | 52.5  | 4   | 1260                | 23                                | 3.5                 | DCP4P056009J |

| Capacitance | 1300 VDC (70° C) / 1100 VDC (85° C) / 800 VDC (105° C) |      |      |       |     |                     |                                   |                     | Part number  |
|-------------|--|------|------|-------|-----|---------------------|-----------------------------------|---------------------|--------------|
|             | W  | H    | L    | PCM** | Pin | I <sub>S</sub><br>A | I <sub>rms</sub> * (10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ |              |
| 1 µF        | 11   | 21   | 31.5 | 27.5  | 2/4 | 50                  | 2.5                               | 40                  | DCP4R241006B |
| 2 "         | 15   | 26   | 31.5 | 27.5  | 2/4 | 100                 | 4.5                               | 16.8                | DCP4R242006F |
| 3 "         | 17   | 29   | 31.5 | 27.5  | 2/4 | 150                 | 6                                 | 10.8                | DCP4R243006G |
| 4 "         | 17   | 34.5 | 31.5 | 27.5  | 2/4 | 200                 | 6.5                               | 10.4                | DCP4R244006I |
| 5 "         | 20   | 39.5 | 31.5 | 27.5  | 2/4 | 250                 | 7.5                               | 9.4                 | DCP4R245006J |
|             | 19   | 32   | 41.5 | 37.5  | 2/4 | 175                 | 7                                 | 11                  | DCP4R245007F |
| 7 "         | 20   | 39.5 | 41.5 | 37.5  | 2/4 | 245                 | 8                                 | 10                  | DCP4R247007G |
| 8 "         | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 280                 | 9                                 | 9.9                 | DCP4R248007H |
| 10 µF       | 24   | 45.5 | 41.5 | 37.5  | 2/4 | 350                 | 10.5                              | 7.2                 | DCP4R251007H |
|             | 28   | 38   | 41.5 | 37.5  | 2/4 | 350                 | 10.5                              | 7.2                 | DCP4R251007L |
| 15 "        | 31   | 46   | 41.5 | 37.5  | 2/4 | 525                 | 14                                | 4.8                 | DCP4R251507I |
|             | 25   | 45   | 57   | 52.5  | 4   | 375                 | 13                                | 6                   | DCP4R251509D |
| 18 "        | 35   | 50   | 41.5 | 37.5  | 2/4 | 630                 | 15.5                              | 4.4                 | DCP4R251807J |
|             | 25   | 45   | 57   | 52.5  | 4   | 450                 | 14.5                              | 4.9                 | DCP4R251809D |
| 20 "        | 40   | 55   | 41.5 | 37.5  | 2/4 | 700                 | 17.5                              | 4                   | DCP4R252007K |
|             | 30   | 45   | 57   | 52.5  | 4   | 500                 | 16                                | 4.4                 | DCP4R252009E |
| 22 "        | 40   | 55   | 41.5 | 37.5  | 2/4 | 770                 | 18                                | 3.8                 | DCP4R252207K |
|             | 35   | 50   | 57   | 52.5  | 4   | 550                 | 17.5                              | 4.3                 | DCP4R252209F |
| 25 "        | 35   | 50   | 57   | 52.5  | 4   | 625                 | 19                                | 3.6                 | DCP4R252509F |
| 30 "        | 45   | 55   | 57   | 52.5  | 4   | 750                 | 20                                | 4                   | DCP4R253009H |
| 35 "        | 45   | 65   | 57   | 52.5  | 4   | 875                 | 21                                | 4.1                 | DCP4R253509J |
| 40 "        | 45   | 65   | 57   | 52.5  | 4   | 1000                | 22                                | 3.7                 | DCP4R254009J |

\* General guide

New values and box sizes. The box sizes according to main catalogue 2019 are still available on request.

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

\* Permissible I<sub>rms</sub> at 10° C internal temperature rise (general guide)

Dims. in mm.

Rights reserved to amend design data without prior notification.



## Continuation

### General Data

| Capacitance | W  | H    | L    | PCM** | Pin | $I_S$<br>A | $I_{rms}$ *(10 kHz)*<br>A | ESR (10 kHz)*<br>mΩ | Part number       |
|-------------|----|------|------|-------|-----|------------|---------------------------|---------------------|-------------------|
| 1 μF        | 13 | 24   | 31.5 | 27.5  | 2/4 | 59         | 3                         | 33.3                | DCP4S041006D_____ |
| 2 "         | 17 | 29   | 31.5 | 27.5  | 2/4 | 118        | 5                         | 15.6                | DCP4S042006G_____ |
| 3 "         | 19 | 32   | 41.5 | 37.5  | 2/4 | 123        | 6                         | 15                  | DCP4S043007F_____ |
| 4 "         | 20 | 39.5 | 41.5 | 37.5  | 2/4 | 164        | 7                         | 13.3                | DCP4S044007G_____ |
| 5 "         | 20 | 39.5 | 41.5 | 37.5  | 2/4 | 205        | 8                         | 10.2                | DCP4S045007G_____ |
| 7 "         | 24 | 45.5 | 41.5 | 37.5  | 2/4 | 287        | 9.5                       | 8.9                 | DCP4S047007H_____ |
|             | 28 | 38   | 41.5 | 37.5  | 2/4 | 287        | 9.5                       | 8.4                 | DCP4S047007L_____ |
| 8 "         | 31 | 46   | 41.5 | 37.5  | 2/4 | 328        | 11                        | 7.6                 | DCP4S048007I_____ |
| 10 μF       | 31 | 46   | 41.5 | 37.5  | 2/4 | 410        | 12.5                      | 5.9                 | DCP4S051007I_____ |
| 12 "        | 35 | 50   | 41.5 | 37.5  | 2/4 | 492        | 14.5                      | 5                   | DCP4S051207J_____ |
|             | 25 | 45   | 57   | 52.5  | 4   | 348        | 14                        | 5.2                 | DCP4S051209D_____ |
| 15 "        | 40 | 55   | 41.5 | 37.5  | 2/4 | 615        | 17                        | 4.3                 | DCP4S051507K_____ |
|             | 30 | 45   | 57   | 52.5  | 4   | 435        | 16                        | 4.4                 | DCP4S051509E_____ |
| 18 "        | 35 | 50   | 57   | 52.5  | 4   | 522        | 17.5                      | 4.3                 | DCP4S051809F_____ |
| 20 "        | 35 | 50   | 57   | 52.5  | 4   | 580        | 18                        | 4.1                 | DCP4S052009F_____ |
| 22 "        | 45 | 55   | 57   | 52.5  | 4   | 638        | 20                        | 4.1                 | DCP4S052209H_____ |
| 25 "        | 45 | 55   | 57   | 52.5  | 4   | 725        | 20.5                      | 3.9                 | DCP4S052509H_____ |
| 30 "        | 45 | 65   | 57   | 52.5  | 4   | 870        | 21.5                      | 4                   | DCP4S053009J_____ |

\* General guide

New range

\* Permissible  $I_{rms}$  at 10° C internal temperature rise (general guide)

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

Dims. in mm.

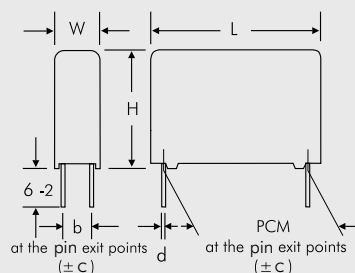
| Part number completion:     |       |      |
|-----------------------------|-------|------|
| Version code:               | 2-pin | = D2 |
|                             | 4-pin | = D4 |
| Tolerance:                  | 20 %  | = M  |
|                             | 10 %  | = K  |
|                             | 5 %   | = J  |
| Packing:                    | bulk  | = S  |
| Pin length:                 | 6-2   | = SD |
| Taped version see page 161. |       |      |

#### 2-pin version



| PCM  | d   |
|------|-----|
| 27.5 | 0.8 |
| 37.5 | 1   |

#### 4-pin version



| W  | PCM  | b    | d   | c   |
|----|------|------|-----|-----|
| 11 | 27.5 | 5    | 0.8 | 0.4 |
| 13 | 27.5 | 7.5  | 0.8 | 0.4 |
| 15 | 27.5 | 7.5  | 0.8 | 0.4 |
| 17 | 27.5 | 10   | 0.8 | 0.4 |
| 20 | 27.5 | 12.5 | 0.8 | 0.4 |
| 19 | 37.5 | 10   | 1   | 0.4 |
| 20 | 37.5 | 12.5 | 1   | 0.4 |
| 24 | 37.5 | 12.5 | 1   | 0.4 |
| 28 | 37.5 | 10   | 1   | 0.4 |
| 31 | 37.5 | 20   | 1   | 0.4 |
| 35 | 37.5 | 20   | 1   | 0.4 |
| 40 | 37.5 | 20   | 1   | 0.4 |
| 25 | 52.5 | 20   | 1.2 | 0.8 |
| 30 | 52.5 | 20   | 1.2 | 0.8 |
| 35 | 52.5 | 20   | 1.2 | 0.8 |
| 45 | 52.5 | 20   | 1.2 | 0.8 |

#### Plate versions page 144



Example

Rights reserved to amend design data without prior notification.

Continuation page 141



## Continuation

### 500 VDC

Impedance change with frequency  
(general guide)



Permissible AC current in relation to  
frequency at  $\leq 20^\circ\text{C}$  internal temperature  
rise (general guide)



### 600 VDC

Impedance change with frequency  
(general guide)



Permissible AC current in relation to  
frequency at  $\leq 20^\circ\text{C}$  internal temperature  
rise (general guide)



## Continuation

### 800 VDC

Impedance change with frequency (general guide)



Permissible AC current in relation to frequency at  $\leq 20^\circ\text{C}$  internal temperature rise (general guide)



### 900 VDC

Impedance change with frequency (general guide)



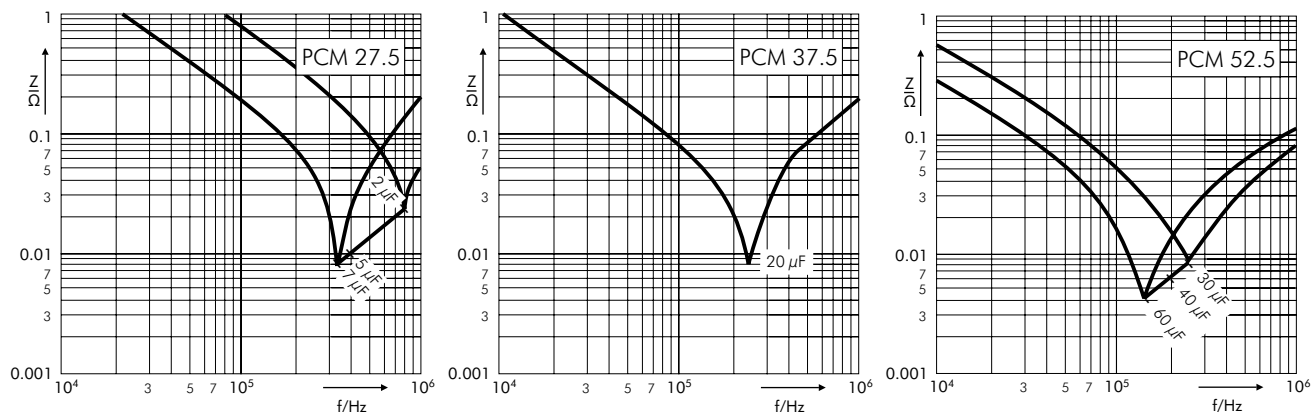
Permissible AC current in relation to frequency at  $\leq 20^\circ\text{C}$  internal temperature rise (general guide)



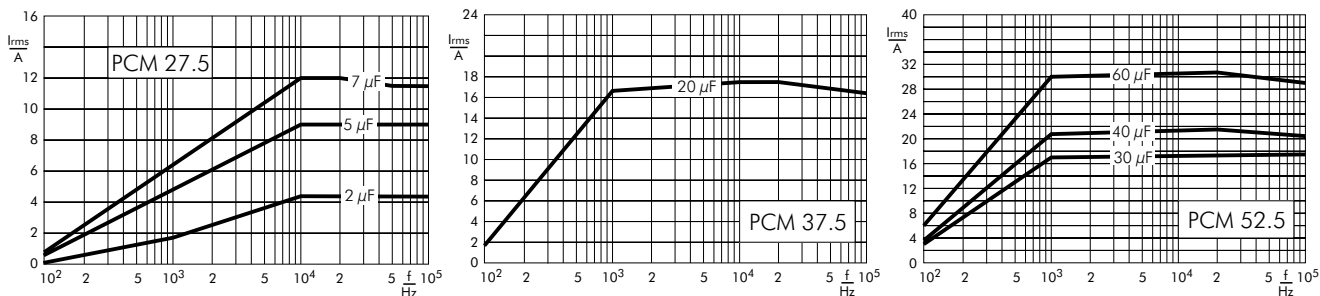
## Continuation

### 1100 VDC

Impedance change with frequency (general guide)

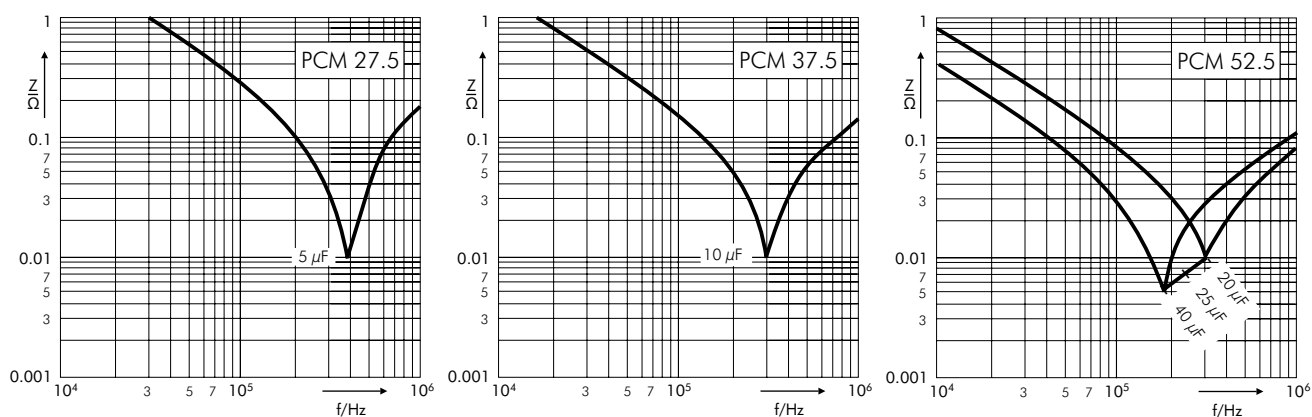


Permissible AC current in relation to frequency at  $\leq 20^\circ\text{C}$  internal temperature rise (general guide)

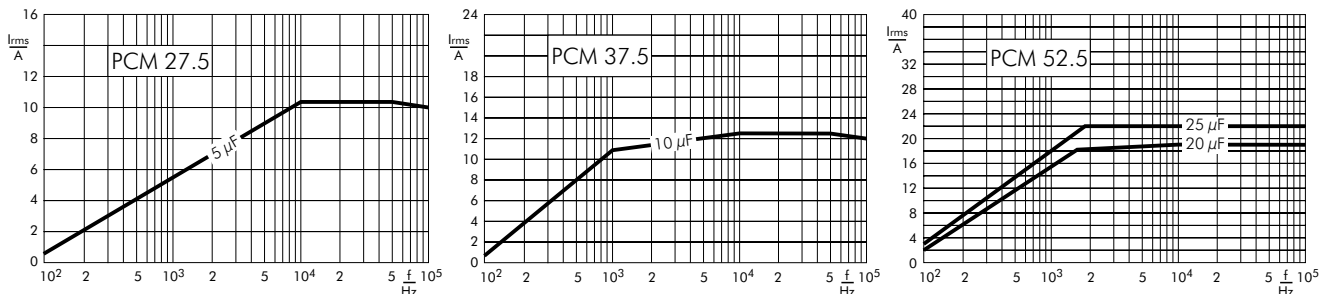


### 1300 VDC

Impedance change with frequency (general guide)



Permissible AC current in relation to frequency at  $\leq 20^\circ\text{C}$  internal temperature rise (general guide)

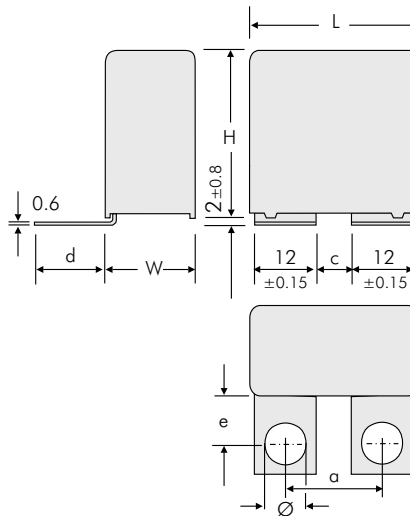


## Continuation

### Plate versions



| Version     | L    | a<br>±0.5 | b<br>±0.5 | c<br>±0.5 | h<br>±0.8 |
|-------------|------|-----------|-----------|-----------|-----------|
| <b>A1</b>   | 41.5 | 17.5      | 28        | 7.5       | 0         |
| <b>A1.5</b> | 41.5 | 17.5      | 28        | 7.5       | 3.5       |



| Version       | L    | a<br>±0.5 | c<br>±0.5 | d<br>±0.8 | e<br>±0.8 | Ø<br>±0.1 |
|---------------|------|-----------|-----------|-----------|-----------|-----------|
| <b>A1.6</b>   | 41.5 | 18        | 6         | 21.5      | 16        | 7         |
| <b>A1.6.1</b> | 41.5 | 22        | 10        | 18.5      | 13        | 7         |
| <b>A1.6.2</b> | 41.5 | 23        | 10        | 18.5      | 13        | 8         |



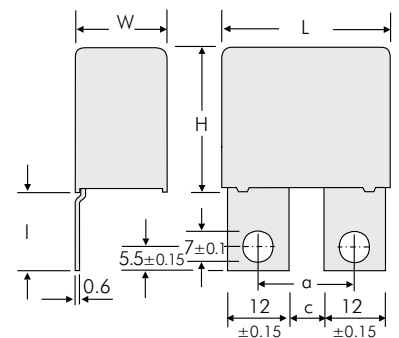
| Version       | L    | a<br>±0.5 | b<br>±0.5 | c<br>±0.5 | d<br>±0.15 | e<br>±0.8 | f<br>±0.1 | h<br>±0.8 |
|---------------|------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| <b>A2</b>     | 41.5 | 36        | 46.5      | 14.5      | 22         | 7.5       | 8.4       | 0         |
| <b>A2.4.1</b> | 41.5 | 33.5      | 39.5      | 7.5       | 22         | 13        | 8.4       | 0         |
| <b>A2.6.1</b> | 41.5 | 31.5      | 41.5      | 14        | 22         | 13        | 6.1       | 3.5       |
| <b>A2.6.2</b> | 41.5 | 31.5      | 41.5      | 14        | 22         | 13        | 6.1       | 0         |
| <b>A2.8</b>   | 41.5 | 36        | 46.5      | 14.5      | 22         | 7.5       | 8.4       | 3.5       |



| Version      | L    | a<br>±0.5 | b<br>±0.5 | c<br>±0.5 | d<br>±0.15 | h<br>±0.8 |
|--------------|------|-----------|-----------|-----------|------------|-----------|
| <b>A3</b>    | 41.5 | 17.5      | 27.5      | 7.5       | 15         | 0         |
| <b>A3.5</b>  | 41.5 | 17.5      | 27.5      | 7.5       | 15         | 3         |
| <b>A3.12</b> | 41.5 | 17.5      | 30        | 7.5       | 16.5       | 0         |



| Version      | L    | a<br>±0.5 | b<br>±0.5 | c<br>±0.5 | h<br>±0.8 |
|--------------|------|-----------|-----------|-----------|-----------|
| <b>A3.9</b>  | 41.5 | 40.5      | 46.5      | 14.5      | 0         |
| <b>A3.11</b> | 41.5 | 40.5      | 46.5      | 14.5      | 3         |



| Version       | L           | a<br>±0.5 | c<br>±0.5 | l<br>±0.8 |
|---------------|-------------|-----------|-----------|-----------|
| <b>A3.8</b>   | 41.5 W ≥ 17 | 18        | 6         | 23        |
| <b>A3.8.1</b> | 41.5 W ≥ 17 | 22        | 10        | 17.5      |
| <b>A3.8.2</b> | 41.5 W ≥ 17 | 22        | 10        | 23        |

## Continuation

### Plate versions



| Version      | L           | a<br>±0.8 | b<br>±0.8 | f<br>±0.8 | d<br>±0.1 |
|--------------|-------------|-----------|-----------|-----------|-----------|
| <b>A4.9</b>  | 31.5 W ≥ 15 | 44        | 47        | 57        | 4.5       |
| <b>A4.10</b> | 31.5 W ≥ 15 | 43        | 59        | 69        | 6.1       |
| <b>A4.2</b>  | 41.5 W ≥ 15 | 54        | 57        | 67        | 4.5       |
| <b>A4</b>    | 41.5 W ≥ 15 | 53        | 69        | 79        | 6.1       |

### Version B



Dims. in mm

| L    | PCM  | b<br>±0.15 |
|------|------|------------|
| 31.5 | 28.5 | 8          |
| 41.5 | 38.5 | 8          |

Additional special versions can be realized. Please contact us with your specific needs.

Possible connecting respective plate versions - depending on box size

| Version code     |           | D2    | D4    | B8 | 1A | 1H   | 1I   | 1J     | 1S     | 2A | 2F     | 2J     | 2K     | 2M   | 3A | 3G   | 3K   | 3L     | 3M     | 3N   | 3P    | 3Q    | 4A | 4C   | 4L   | 4M    |
|------------------|-----------|-------|-------|----|----|------|------|--------|--------|----|--------|--------|--------|------|----|------|------|--------|--------|------|-------|-------|----|------|------|-------|
| W x H x L        | Size Code | 2-pin | 4-pin | B8 | A1 | A1.5 | A1.6 | A1.6.1 | A1.6.2 | A2 | A2.4.1 | A2.6.1 | A2.6.2 | A2.8 | A3 | A3.5 | A3.8 | A3.8.1 | A3.8.2 | A3.9 | A3.11 | A3.12 | A4 | A4.2 | A4.9 | A4.10 |
| 9 x 19 x 31.5    | <b>6A</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 11 x 21 x 31.5   | <b>6B</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 13 x 24 x 31.5   | <b>6D</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 15 x 26 x 31.5   | <b>6F</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 17 x 29 x 31.5   | <b>6G</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 17 x 34.5 x 31.5 | <b>6I</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 20 x 39.5 x 31.5 | <b>6J</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 13 x 24 x 41.5   | <b>7C</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 15 x 26 x 41.5   | <b>7D</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 17 x 29 x 41.5   | <b>7E</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 19 x 32 x 41.5   | <b>7F</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 20 x 39.5 x 41.5 | <b>7G</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 24 x 45.5 x 41.5 | <b>7H</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 28 x 38 x 41.5   | <b>7L</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 31 x 46 x 41.5   | <b>7I</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 35 x 50 x 41.5   | <b>7J</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |
| 40 x 55 x 41.5   | <b>7K</b> |       |       |    |    |      |      |        |        |    |        |        |        |      |    |      |      |        |        |      |       |       |    |      |      |       |

## Recommendation for Processing and Application of Through-Hole Capacitors

### Soldering Process

Internal temperature of the capacitor must be kept as follows:

Polyester: preheating:  $T_{\max.} \leq 125^{\circ}\text{C}$   
soldering:  $T_{\max.} \leq 135^{\circ}\text{C}$

Polypropylene: preheating:  $T_{\max.} \leq 100^{\circ}\text{C}$   
soldering:  $T_{\max.} \leq 110^{\circ}\text{C}$

#### Single wave soldering

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

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

#### Double wave soldering

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

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

Due to different soldering processes and heat requirements the graphs are to be regarded as a recommendation only.



## WIMA Quality and Environmental Philosophy

### ISO 9001:2015 Certification

ISO 9001:2015 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2015 of our factories by the ifaz (Institut für Auditierung und Zertifizierung) certifies that organisation, equipment and monitoring of quality assurance in our factories correspond to internationally recognized standards.

### WIMA WPCS

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

- incoming material inspection
- metallization
- film inspection
- schoopage
- pre-healing
- pin attachment
- cast resin preparation/encapsulation
- 100% final inspection
- Testing as per customer requirements

### WIMA Environmental Policy

All WIMA capacitors, irrespective of whether through-hole devices or SMD, are made of environmentally friendly materials. Neither during manufacture nor in the product itself any toxic substances are used, e.g.

- |                        |            |
|------------------------|------------|
| - Lead                 | - 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:

- adhesive tapes made of plastic
- metal clips

### RoHS Compliance

According to the RoHS Directive 2011/65/EU as amended from time to time certain hazardous substances like e.g. lead, cadmium, mercury must not be used any longer in electronic equipment as of July 1st, 2006. For the sake of the environment WIMA has refrained from using such substances since years already.



WIMA Kondensatoren sind bleifrei konform RoHS 2011/65/EU

WIMA capacitors are lead free in accordance with RoHS 2011/65/EU

Tape for lead-free WIMA capacitors

### DIN EN ISO 14001:2004

WIMA's environmental management has been established in accordance with the guidelines of DIN EN ISO 14001:2004 to optimize the production processes with regard to energy and resources.

## Typical Dimensions for Taping Configuration



Diagram 1:  
PCM 2.5/5/7.5mm



Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5\*mm

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

| Designation                                      | Symbol         | Dimensions for Radial Taping                             |  |   |   |   |   |   |
|--|----------------|--|--|---|---|---|---|---|
|  |                | PCM 2.5 taping   | PCM 5 taping   | PCM 7.5 taping  | PCM 10 taping*  | PCM 15 taping*  | PCM 22.5 taping   | PCM 27.5 taping   |
| Carrier tape width                               | W              | 18.0 ±0.5  | 18.0 ±0.5  | 18.0 ±0.5   | 18.0 ±0.5   | 18.0 ±0.5   | 18.0 ±0.5   | 18.0 ±0.5   |
| Hold-down tape width                             | W <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<br>18.5 ±0.5                                   | 16.5 ±0.3<br>18.5 ±0.5                                   | 16.5 ±0.5<br>18.5 ±0.5                                    | 16.5 ±0.5<br>18.5 ±0.5                                    | 16.5 ±0.5<br>18.5 ±0.5                                    | 16.5 ±0.5<br>18.5 ±0.5                                    | 16.5 ±0.5<br>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              | 0.6 ±0.2   | 0.6 ±0.2   | 0.6 ±0.2  | 0.6 ±0.2  | 0.6 ±0.2  | 0.6 ±0.2  | 0.6 ±0.2  |
| Package<br>(see also page 162)                   |                | ROLL/AMMO  |  |   | AMMO  |   |   |   |
|  |                | REEL ø 360 max.<br>ø 30 ±1                               | B 52 ±2<br>58 ±2 } depending on comp. dimensions         |   | REEL ø 360 max.<br>ø 30 ±1                                | 52 ±2<br>58 ±2 or 66 ±2                                   | REEL ø 500 max.<br>ø 25 ±1                                | 54 ±2<br>60 ±2 or 68 ±2 } depending on PCM and component dimensions |
| Unit   |                | see details page 163.                                    |  |   |   |   |   |   |

Dims in mm.

\* Diameter of pins see General Data.

Please clarify customer-specific deviations with the manufacturer.

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

Position of components according to PCM 7.5 (sketch 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

- WIMA supplier number
- Date code
- Customer's P/O number
- P/O line
- Customer's part number
- WIMA part number
- Quantity
- WIMA confirmation number
- Country of origin
- Customer name
- Handling unit number
- Week of delivery.

In addition part description of

- article
- capacitance value
- rated voltage
- dimensions
- technical note
- capacitance tolerance
- packing
- connecting information

|   |  |
|---|--|
| <b>WIMA</b> Best Capacitors Made in Germany   |  |
| Werk Aurich   |  |
| Supplier-ID: LIEF.NR.   | Date Code: 20210419  |
|  |  |
| Purchase Order No. (P/O): Bestellung xyz  | P/O line: 100  |
|  |  |
| Customer Part No.: KUNDENTEILENUMMER  |  |
|  |  |
| WIMA Part No.: MKP1F041006B00KSSD   | Quantity: 459  |
|  |  |
| WIMA Confirmation No.: 0001105072000100   |  |
|  |  |
| Customer No.: 0000100002  | RoHS 2011/65/EU  |
| Gross Weight [g]: 4557  | COO: DE  |
|  |  |
| WIMA – MKP 10 WIMA Part No.: MKP1F041006B00KSSD                                     |  |
| MKP 10 1.0 µF 250 VDC 11x21x31.5 RM27.5   |  |
| Standard 10% Vorlage Debitor Inland   | Loose – Standard Drähte 6–2  |
|  | 0001105072000100   |
| 1002021443  | QTY: 459 Week 19/2021  |

BARCODE PDF417

BARCODE 2D Datamatrix

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



| PCM     | Size |      |      |       | bulk | ROLL  |       | pcs. per packing unit |       |           |           | AMMO  |       |       |       |
|---------|------|------|------|-------|------|-------|-------|-----------------------|-------|-----------|-----------|-------|-------|-------|-------|
|         |      |      |      |       |      |       |       | REEL                  |       |           |           |       |       |       |       |
|         | W    | H    | L    | Codes |      | H16.5 | H18.5 | ø 360                 | ø 500 | 340 x 340 | 490 x 370 | H16.5 | H18.5 | H16.5 | H18.5 |
|         |      |      |      |       | S    | N     | O     | F                     | I     | H         | J         | A     | C     | B     | D     |
| 2.5 mm  | 2.5  | 7    | 4.6  | 0B    | 5000 | 2200  |       | 2500                  |       | –         |           | 2800  |       | –     |       |
|         | 3    | 7.5  | 4.6  | 0C    | 5000 | 2000  |       | 2300                  |       | –         |           | 2300  |       | –     |       |
|         | 3.8  | 8.5  | 4.6  | 0D    | 5000 | 1500  |       | 1800                  |       | –         |           | 1800  |       | –     |       |
|         | 4.6  | 9    | 4.6  | 0E    | 5000 | 1200  |       | 1500                  |       | –         |           | 1500  |       | –     |       |
|         | 5.5  | 10   | 4.6  | 0F    | 5000 | 900   |       | 1200                  |       | –         |           | 1200  |       | –     |       |
| 5 mm    | 2.5  | 6.5  | 7.2  | 1A    | 5000 | 2200  |       | 2500                  |       | –         |           | 2800  |       | –     |       |
|         | 3    | 7.5  | 7.2  | 1B    | 5000 | 2000  |       | 2300                  |       | –         |           | 2300  |       | –     |       |
|         | 3.5  | 8.5  | 7.2  | 1C    | 5000 | 1600  |       | 2000                  |       | –         |           | 2000  |       | –     |       |
|         | 4.5  | 6    | 7.2  | 1D    | 6000 | 1300  |       | 1500                  |       | –         |           | 1500  |       | –     |       |
|         | 4.5  | 9.5  | 7.2  | 1E    | 4000 | 1300  |       | 1500                  |       | –         |           | 1500  |       | –     |       |
|         | 5    | 10   | 7.2  | 1F    | 3500 | 1100  |       | 1400                  |       | –         |           | 1400  |       | –     |       |
|         | 5.5  | 7    | 7.2  | 1G    | 4000 | 1000  |       | 1200                  |       | –         |           | 1200  |       | –     |       |
|         | 5.5  | 11.5 | 7.2  | 1H    | 2500 | 1000  |       | 1200                  |       | –         |           | 1200  |       | –     |       |
|         | 6.5  | 8    | 7.2  | 1I    | 2500 | 800   |       | 1000                  |       | –         |           | 1000  |       | –     |       |
|         | 7.2  | 8.5  | 7.2  | 1J    | 2500 | 700   |       | 1000                  |       | –         |           | 1000  |       | –     |       |
|         | 7.2  | 13   | 7.2  | 1K    | 2000 | 700   |       | 950                   |       | –         |           | 1000  |       | –     |       |
|         | 8.5  | 10   | 7.2  | 1L    | 2000 | 600   |       | 800                   |       | –         |           | 800   |       | –     |       |
|         | 8.5  | 14   | 7.2  | 1M    | 1500 | 600   |       | 800                   |       | –         |           | 800   |       | –     |       |
|         | 11   | 16   | 7.2  | 1N    | 1000 | 500   |       | 600                   |       | –         |           | 640   |       | –     |       |
| 7.5 mm  | 2.5  | 7    | 10   | 2A    | 5000 | –     |       | 2500                  |       | 4400      |           | 2500  |       | –     |       |
|         | 3    | 8.5  | 10   | 2B    | 5000 | –     |       | 2200                  |       | 4300      |           | 2300  |       | 4150  |       |
|         | 4    | 9    | 10   | 2C    | 4000 | –     |       | 1700                  |       | 3200      |           | 1700  |       | 3000  |       |
|         | 4.5  | 9.5  | 10.3 | 2D    | 3500 | –     |       | 1500                  |       | 2900      |           | 1400  |       | 2700  |       |
|         | 5    | 10.5 | 10.3 | 2E    | 3000 | –     |       | 1300                  |       | 2500      |           | 1300  |       | –     |       |
|         | 5.7  | 12.5 | 10.3 | 2F    | 2000 | –     |       | 1000                  |       | 2200      |           | 1100  |       | –     |       |
|         | 7.2  | 12.5 | 10.3 | 2G    | 1500 | –     |       | 900                   |       | 1800      |           | 1000  |       | –     |       |
| 10 mm   | 3    | 9    | 13   | 3A    | 3000 | –     |       | 1100                  |       | 2200      |           | –     |       | 1900  |       |
|         | 4    | 8.5  | 13.5 | FA    | 3000 | –     |       | 900                   |       | 1600      |           | –     |       | 1450  |       |
|         | 4    | 9    | 13   | 3C    | 3000 | –     |       | 900                   |       | 1600      |           | –     |       | 1450  |       |
|         | 4    | 9.5  | 13   | 3D    | 3000 | –     |       | 900                   |       | 1600      |           | –     |       | 1400  |       |
|         | 5    | 10   | 13.5 | FB    | 2000 | –     |       | 700                   |       | 1300      |           | –     |       | 1200  |       |
|         | 5    | 11   | 13   | 3F    | 3000 | –     |       | 700                   |       | 1300      |           | –     |       | 1100  |       |
|         | 6    | 12   | 13   | 3G    | 2400 | –     |       | 550                   |       | 1100      |           | –     |       | 1000  |       |
|         | 6    | 12.5 | 13   | 3H    | 2400 | –     |       | 550                   |       | 1100      |           | –     |       | 1000  |       |
| 15 mm   | 8    | 12   | 13   | 3I    | 2000 | –     |       | 400                   |       | 800       |           | –     |       | 740   |       |
|         | 5    | 11   | 18   | 4B    | 2400 | –     |       | 600                   |       | 1200      |           | –     |       | 1150  |       |
|         | 5    | 13   | 19   | FC    | 1000 | –     |       | 600                   |       | 1200      |           | –     |       | 1200  |       |
|         | 6    | 12.5 | 18   | 4C    | 2000 | –     |       | 500                   |       | 1000      |           | –     |       | 1000  |       |
|         | 6    | 14   | 19   | FD    | 1000 | –     |       | 500                   |       | 1000      |           | –     |       | 1000  |       |
|         | 7    | 14   | 18   | 4D    | 1600 | –     |       | 450                   |       | 900       |           | –     |       | 850   |       |
|         | 7    | 15   | 19   | FE    | 1000 | –     |       | 450                   |       | 900       |           | –     |       | 850   |       |
|         | 8    | 15   | 18   | 4F    | 1200 | –     |       | 400                   |       | 800       |           | –     |       | 740   |       |
|         | 8    | 17   | 19   | FF    | 500  | –     |       | 400                   |       | 800       |           | –     |       | 740   |       |
|         | 9    | 14   | 18   | 4H    | 1200 | –     |       | 350                   |       | 700       |           | –     |       | 650   |       |
|         | 9    | 16   | 18   | 4J    | 900  | –     |       | 350                   |       | 700       |           | –     |       | 650   |       |
| 22.5 mm | 10   | 18   | 19   | FG    | 500  | –     |       | 300                   |       | 650       |           | –     |       | 590   |       |
|         | 11   | 14   | 18   | 4M    | 1000 | –     |       | 300                   |       | 600       |           | –     |       | 540   |       |
|         | 5    | 14   | 26.5 | 5A    | 1200 | –     |       | –                     |       | 800       |           | –     |       | 770   |       |
|         | 6    | 15   | 26.5 | 5B    | 1000 | –     |       | –                     |       | 700       |           | –     |       | 640   |       |
|         | 7    | 16.5 | 26.5 | 5D    | 760  | –     |       | –                     |       | 600       |           | –     |       | 550   |       |
|         | 8    | 20   | 28   | 5H    | 500  | –     |       | –                     |       | 500       |           | –     |       | 480   |       |
|         | 8.5  | 18.5 | 26.5 | 5F    | 500  | –     |       | –                     |       | 480       |           | –     |       | 450   |       |
| 22.5 mm | 10   | 22   | 28   | FI    | 570* | –     |       | –                     |       | 420       |           | –     |       | 380   |       |
|         | 10.5 | 19   | 26.5 | 5G    | 594* | –     |       | –                     |       | 400       |           | –     |       | 360   |       |
|         | 10.5 | 20.5 | 26.5 | 5H    | 594* | –     |       | –                     |       | 400       |           | –     |       | 360   |       |
|         | 11   | 21   | 26.5 | 5I    | 561* | –     |       | –                     |       | 380       |           | –     |       | 350   |       |
|         | 12   | 24   | 28   | FJ    | 480* | –     |       | –                     |       | 350       |           | –     |       | 310   |       |

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

■ Moulded versions.

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     |          | REEL     |          |          |          | AMMO      |          |           |          |
|----------------|------|------|------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|-----------|----------|
|                |      |      |      |           |          | H16.5    | H18.5    | ø 360    |          | ø 500    |          | 340 × 340 |          | 490 × 370 |          |
|                | W    | H    | L    | Codes     |          |          |          | H16.5    | H18.5    | H16.5    | H18.5    | H16.5     | H18.5    | H16.5     | H18.5    |
|                |      |      |      |           | <b>S</b> | <b>N</b> | <b>O</b> | <b>F</b> | <b>I</b> | <b>H</b> | <b>J</b> | <b>A</b>  | <b>C</b> | <b>B</b>  | <b>D</b> |
| <b>27.5 mm</b> | 9    | 19   | 31.5 | <b>6A</b> | 567*     | –        | –        | –        | –        | 460/340* | –        | –         | –        | –         | –        |
|                | 11   | 21   | 31.5 | <b>6B</b> | 459*     | –        | –        | –        | –        | 380/280* | –        | –         | –        | –         | –        |
|                | 13   | 24   | 31.5 | <b>6D</b> | 378*     | –        | –        | –        | –        | 300      | –        | –         | –        | –         | –        |
|                | 13   | 25   | 33   | <b>FK</b> | 405*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 15   | 26   | 31.5 | <b>6F</b> | 324*     | –        | –        | –        | –        | 270      | –        | –         | –        | –         | –        |
|                | 15   | 26   | 33   | <b>FL</b> | 324*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 17   | 29   | 31.5 | <b>6G</b> | 198*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 17   | 34.5 | 31.5 | <b>6I</b> | 198*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 20   | 32   | 33   | <b>FM</b> | 162*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 20   | 39.5 | 31.5 | <b>6J</b> | 162*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
| <b>37.5 mm</b> | 9    | 19   | 41.5 | <b>7A</b> | 441*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 11   | 22   | 41.5 | <b>7B</b> | 357*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 13   | 24   | 41.5 | <b>7C</b> | 294*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 15   | 26   | 41.5 | <b>7D</b> | 252*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 17   | 29   | 41.5 | <b>7E</b> | 154*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 19   | 32   | 41.5 | <b>7F</b> | 140*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 20   | 39.5 | 41.5 | <b>7G</b> | 126*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 24   | 45.5 | 41.5 | <b>7H</b> | 112*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 28   | 38   | 41.5 | <b>7L</b> | 84*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 31   | 46   | 41.5 | <b>7I</b> | 84*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 35   | 50   | 41.5 | <b>7J</b> | 35*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 40   | 55   | 41.5 | <b>7K</b> | 28*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
| <b>48.5 mm</b> | 19   | 31   | 56   | <b>8D</b> | 120*     | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 23   | 34   | 56   | <b>8E</b> | 80*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 27   | 37.5 | 56   | <b>8H</b> | 84*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 33   | 48   | 56   | <b>8J</b> | 25*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 37   | 54   | 56   | <b>8L</b> | 25*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
| <b>52.5 mm</b> | 25   | 45   | 57   | <b>9D</b> | 70*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 30   | 45   | 57   | <b>9E</b> | 60*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 35   | 50   | 57   | <b>9F</b> | 25*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 45   | 55   | 57   | <b>9H</b> | 20*      | –        | –        | –        | –        | –        | –        | –         | –        | –         | –        |
|                | 45   | 65   | 57   | <b>9J</b> | 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.

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



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

- Field 1 - 4: Type description
- Field 5 - 6: Rated voltage
- Field 7 - 10: Capacitance
- Field 11 - 12: Size and PCM
- Field 13 - 14: Version code (e.g. Snubber versions)
- Field 15: Capacitance tolerance
- Field 16: Packing
- Field 17 - 18: Pin length (untaped)

| 1  | 2 | 3 | 4 | 5  | 6 | 7  | 8 | 9 | 10   | 11 | 12 | 13  | 14 | 15  | 16   | 17   | 18 |
|--|---|---|---|--|---|--|---|---|--|----|----|---|----|---|------|--|----|
| M  | K | S | 2 | C  | 0 | 2  | 1 | 0 | 0  | 1  | A  | 0   | 0  | M   | S    | S  | D  |
| MKS 2  |   |   |   | 63 VDC   |   | 0.01 μF  |   |   | 2.5x6.5x7.2  |    |    | -   |    | 20%   | bulk | 6 -2   |    |
| <b>Type description:</b><br>SMD-PET = SMDT<br>SMD-PEN = SMDN<br>SMD-PPS = SMDI<br>FKP 02 = FKPO<br>MKS 02 = MKSO<br>FKS 2 = FKS2<br>FKP 2 = FKP2<br>FKS 3 = FKS3<br>FKP 3 = FKP 3<br>MKS 2 = MKS2<br>MKP 2 = MKP2<br>MKS 4 = MKS4<br>MKP 4 = MKP4<br>MKP 10 = MKP1<br>FKP 4 = FKP4<br>FKP 1 = FKP1<br>MKP-X2 = MKX2<br>MKP-X1 R = MKX1<br>MKP-Y2 = MKY2<br>MP 3-X2 = MPX2<br>MP 3-X1 = MPX1<br>MP 3-Y2 = MPY2<br>MP 3R-Y2 = MPRY<br>MKP 4F = MKPF<br>Snubber MKP = SNMP<br>Snubber FKP = SNFP<br>GTO MKP = GTOM<br>DC-LINK MKP 4 = DCP4<br>DC-LINK MKP 6 = DCP6<br>DC-LINK HC = DCHC |   |   |   | <b>Rated voltage:</b><br>50 VDC = B0<br>63 VDC = C0<br>100 VDC = D0<br>250 VDC = F0<br>400 VDC = G0<br>450 VDC = H0<br>520 VDC = H2<br>600 VDC = I0<br>630 VDC = J0<br>700 VDC = K0<br>800 VDC = L0<br>850 VDC = M0<br>900 VDC = N0<br>1000 VDC = O1<br>1100 VDC = P0<br>1200 VDC = Q0<br>1250 VDC = R0<br>1500 VDC = S0<br>1600 VDC = T0<br>1700 VDC = TA<br>2000 VDC = U0<br>2500 VDC = V0<br>3000 VDC = W0<br>4000 VDC = X0<br>6000 VDC = Y0<br>250 VAC = 0V<br>275 VAC = 1V<br>300 VAC = 2V<br>305 VAC = AV<br>350 VAC = BV<br>440 VAC = 4V<br>500 VAC = 5V<br>... |   | <b>Capacitance:</b><br>22 pF = 0022<br>47 pF = 0047<br>100 pF = 0100<br>150 pF = 0150<br>220 pF = 0220<br>330 pF = 0330<br>470 pF = 0470<br>680 pF = 0680<br>1000 pF = 1100<br>1500 pF = 1150<br>2200 pF = 1220<br>3300 pF = 1330<br>4700 pF = 1470<br>6800 pF = 1680<br>0.01 μF = 2100<br>0.022 μF = 2220<br>0.047 μF = 2470<br>0.1 μF = 3100<br>0.22 μF = 3220<br>0.47 μF = 3470<br>1 μF = 4100<br>2.2 μF = 4220<br>4.7 μF = 4470<br>10 μF = 5100<br>22 μF = 5220<br>47 μF = 5470<br>100 μF = 6100<br>220 μF = 6220<br>1000 μF = 7100<br>1500 μF = 7150<br>... |   |   | <b>Size:</b><br>4.8x3.3x3 Size 1812 = KA<br>4.8x3.3x4 Size 1812 = KB<br>5.7x5.1x3.5 Size 2220 = QA<br>5.7x5.1x4.5 Size 2220 = QB<br>7.2x6.1x3 Size 2824 = TA<br>7.2x6.1x5 Size 2824 = TB<br>10.2x7.6x5 Size 4030 = VA<br>12.7x10.2x6 Size 5040 = XA<br>15.3x13.7x7 Size 6054 = YA<br>2.5x7x4.6 PCM 2.5 = 0B<br>3x7.5x4.6 PCM 2.5 = 0C<br>2.5x6.5x7.2 PCM 5 = 1A<br>3x7.5x7.2 PCM 5 = 1B<br>2.5x7x10 PCM 7.5 = 2A<br>3x8.5x10 PCM 7.5 = 2B<br>3x9x13 PCM 10 = 3A<br>4x9x13 PCM 10 = 3C<br>5x11x18 PCM 15 = 4B<br>6x12.5x18 PCM 15 = 4C<br>5x14x26.5 PCM 22.5 = 5A<br>6x15x26.5 PCM 22.5 = 5B<br>9x19x31.5 PCM 27.5 = 6A<br>11x21x31.5 PCM 27.5 = 6B<br>9x19x41.5 PCM 37.5 = 7A<br>11x22x41.5 PCM 37.5 = 7B<br>19x31x56 PCM 48.5 = 8D<br>25x45x57 PCM 52.5 = 9D<br>... |    |    | <b>Tolerance:</b><br>±20% = M<br>±10% = K<br>±5% = J<br>±2.5% = H<br>±1% = E<br>... |    | <b>Packing:</b><br>AMMO H16.5 340x340 = A<br>AMMO H16.5 490x370 = B<br>AMMO H18.5 340x340 = C<br>AMMO H18.5 490x370 = D<br>REEL H16.5 360 = F<br>REEL H16.5 500 = H<br>REEL H18.5 360 = I<br>REEL H18.5 500 = J<br>ROLL H16.5 = N<br>ROLL H18.5 = O<br>BLISTER W12 180 = P<br>BLISTER W12 330 = Q<br>BLISTER W16 330 = R<br>BLISTER W24 330 = T<br>Bulk/TPS Standard = S<br>... |      | <b>Pin length (untaped)</b><br>3.5 ±0.5 = C9<br>6 -2 = SD<br>16 ±1 = P1<br>...<br><b>Pin length (taped)</b><br>none = 00 |    |
|  |   |   |   |  |   |  |   |   |  |    |    |   |    |   |      |  |    |

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.