

## Metallized Polypropylene (PP) - Capacitors for DC-Link Applications

### Special Features

- Very high volume/capacitance ratio
- Self-healing properties
- With cylindrical plastic case and screw fixing
- Dry construction without electrolyte or oil
- No internal fuse required
- Negative capacitance change versus temperature
- Very low dielectric absorption
- According to RoHS 2011/65/EU
- Customer-specific capacitances or voltages on request

### Typical Applications

- DC capacitors with high capacitances for applications in power electronics also at non-sinusoidal voltages and currents e.g. in
- Wind power systems
  - Inverters

### Construction

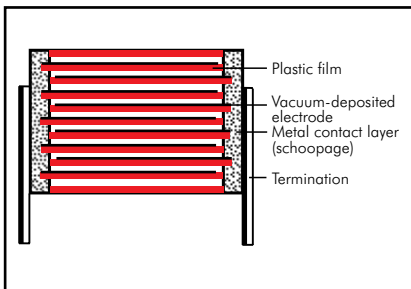
#### Dielectric:

Polypropylene (PP) film

#### Capacitor electrodes:

Vacuum-deposited

#### Internal construction:



#### Encapsulation:

Solvent-resistant, flame-retardant plastic case with PU-sealing and screw fixing, UL 94 V-0

#### Terminations:

Screw connection (male or female).

#### Marking:

Colour: Black. Marking: Gold.

### Electrical Data

**Capacitance range:** 35  $\mu\text{F}$  to 200  $\mu\text{F}$   
**Rated voltages:** 700 VDC, 900 VDC, 1100 VDC, 1300 VDC, 1500 VDC  
**Capacitance tolerances:**  $\pm 20\%$ ,  $\pm 10\%$ , ( $\pm 5\%$  available subject to special enquiry)  
**Operating temperature range:**  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$   
**Insulation resistance** at  $+20^\circ\text{C}$ :  
 $\geq 5000 \text{ sec (M}\Omega \times \mu\text{F)}$   
 (mean value: 20 000 sec)  
 Measuring voltage: 100 V/1 min.

**Dielectric loss factor**  $\tan \delta_0$ :  $2 \times 10^{-4}$

**Test voltage:**  $1.5 U_n$ , 2sec

**Dielectric absorption:** 0.05 %

#### Reliability:

Operational life  $> 100\,000$  hours  
 Failure rate  $< 50 \text{ fit (hot spot } \leq 70^\circ\text{C)}$

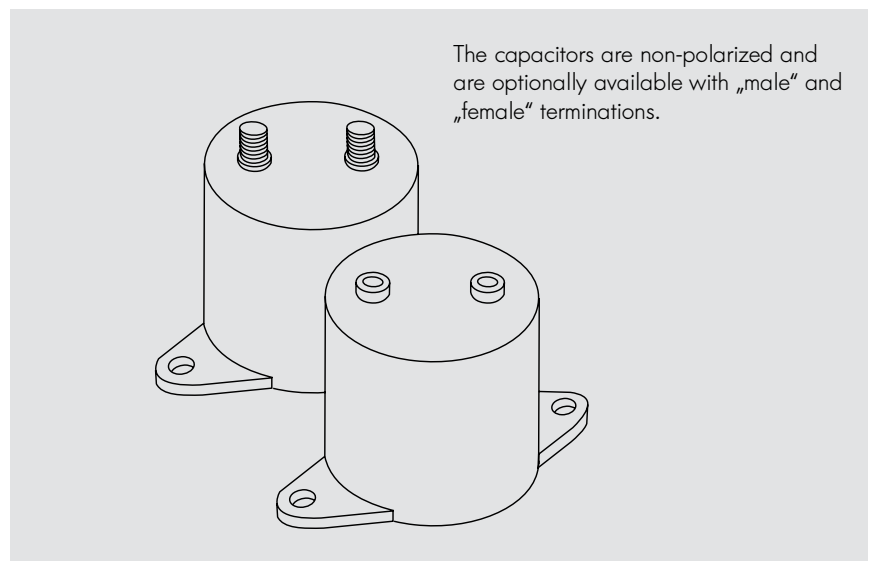
### Mounting Recommendation

Excessive mechanical strain, e.g. pressure or shock onto the capacitor body, is to be avoided during mounting and usage of the capacitors.

### Packing

Transport-safe packing in cardboard boxes.

For further details and graphs please refer to Technical Information.



The capacitors are non-polarized and are optionally available with „male“ and „female“ terminations.

## Continuation

### General Data

| $U_R$    | $C_N$       | D x L<br>mm | $I_{rms}$ (1 kHz)*<br>A | ESR (1 kHz)*<br>m $\Omega$ | $R_{th}$<br>K/W | $L_e$<br>nH | Approx. weight<br>g | Part number          |
|----------|-------------|-------------|-------------------------|----------------------------|-----------------|-------------|---------------------|----------------------|
| 700 VDC  | 150 $\mu$ F | 84.5 x 51   | 100                     | 0.9                        | 7.0             | < 32        | 430                 | DCP3K06150G100_----- |
|          | 200 "       | 84.5 x 64   | 100                     | 1.0                        | 8.5             | < 40        | 510                 | DCP3K06200G200_----- |
| 900 VDC  | 100 $\mu$ F | 84.5 x 51   | 90                      | 1.0                        | 7.2             | < 30        | 430                 | DCP3N06100G100_----- |
|          | 140 "       | 84.5 x 64   | 100                     | 1.3                        | 8.5             | < 40        | 510                 | DCP3N06140G200_----- |
| 1100 VDC | 70 $\mu$ F  | 84.5 x 51   | 100                     | 1.1                        | 7.0             | < 32        | 430                 | DCP3P05700G100_----- |
|          | 90 "        | 84.5 x 64   | 100                     | 1.2                        | 8.5             | < 40        | 510                 | DCP3P05900G200_----- |
| 1300 VDC | 50 $\mu$ F  | 84.5 x 51   | 60                      | 1.7                        | 7.0             | < 35        | 430                 | DCP3R25500G100_----- |
|          | 70 "        | 84.5 x 64   | 50                      | 2.1                        | 8.5             | < 40        | 510                 | DCP3R25700G200_----- |
| 1500 VDC | 35 $\mu$ F  | 84.5 x 51   | 60                      | 1.7                        | 7.0             | < 35        | 430                 | DCP3S05350G100_----- |
|          | 50 "        | 84.5 x 64   | 70                      | 1.9                        | 8.5             | < 40        | 510                 | DCP3S05500G200_----- |

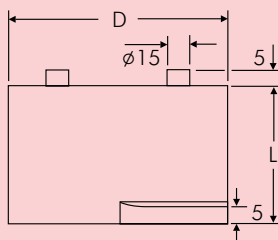
Contacts can handle: peak currents  $\hat{I}$  up to 5 kA  
surge currents  $I_S$  up to 20 kA

Customer-specific capacitances or voltages on request

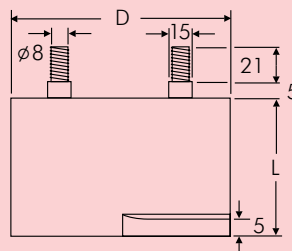
\* General guide

Dims. in mm.

female

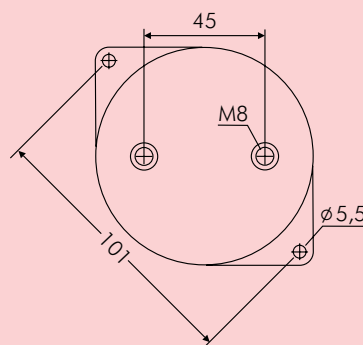
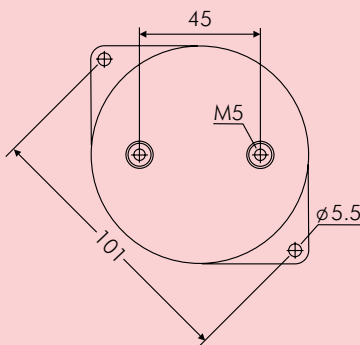


male



Part number completion:

Tolerance: 20 % = M  
10 % = K  
5 % = J  
Packing: bulk = S  
Connection: male = 0M  
female = 0F



| D    | L  |
|------|----|
| 84.5 | 51 |
| 84.5 | 64 |

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# WIMA Part Number System

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

- Field 1 - 4: Type description
- Field 5 - 6: Rated voltage
- Field 7 - 10: Capacitance
- Field 11 - 12: Size and PCM
- Field 13 - 14: 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       |
| <b>M</b> | <b>K</b> | <b>S</b> | <b>2</b> | <b>C</b> | <b>0</b> | <b>2</b> | <b>1</b> | <b>0</b> | <b>0</b>    | <b>1</b> | <b>A</b> | <b>0</b> | <b>0</b> | <b>M</b> | <b>S</b> | <b>S</b> | <b>D</b> |
| MKS 2    |          |          |          | 63 VDC   |          | 0.01 µF  |          |          | 2.5x6.5x7.2 |          | -        |          | 20%      | bulk     | 6-2      |          |          |

|   |  |   |  |  |
|---|--|---|--|--|
| <p><b>Type description:</b></p> <p>SMD-PET = SMDT<br/> SMD-PPS = SMDI<br/> FKP 02 = FKP0<br/> MKS 02 = MKS0<br/> FKS 2 = FKS2<br/> FKP 2 = FKP2<br/> MKS 2 = MKS2<br/> MKS 2 = MKP2<br/> FKS 3 = FKS3<br/> FKP 3 = FKP3<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-X2 R = MKXR<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/> Snubber MKP = SNMP<br/> Snubber FKP = SNFP<br/> GTO MKP = GTOM<br/> DC-LINK MKP 3 = DCP3<br/> DC-LINK MKP 4 = DCP4<br/> DC-LINK MKP 4S = DCPS<br/> DC-LINK MKP 5 = DCP5<br/> DC-LINK MKP 6 = DCP6<br/> DC-LINK HC = DCH_<br/> DC-LINK HY = DCHY</p> | <p><b>Rated voltage:</b></p> <p>50 VDC = B0<br/> 63 VDC = C0<br/> 100 VDC = D0<br/> 250 VDC = F0<br/> 400 VDC = G0<br/> 450 VDC = H0<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/> 2000 VDC = U0<br/> 2500 VDC = V0<br/> 3000 VDC = W0<br/> 4000 VDC = X0<br/> 6000 VDC = Y0<br/> 250 VAC = 0W<br/> 275 VAC = 1W<br/> 300 VAC = 2W<br/> 400 VAC = 3W<br/> 440 VAC = 4W<br/> 500 VAC = 5W<br/> ...</p> | <p><b>Capacitance:</b></p> <p>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/> ...</p> | <p><b>Size:</b></p> <p>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/> 94x49x182 DCH_ = H0<br/> 94x77x182 DCH_ = H1<br/> ...</p> <p><b>Version code:</b></p> <p>Standard = 00<br/> Version A1 = 1A<br/> Version A1.1.1 = 1B<br/> Version A2 = 2A<br/> ...</p> | <p><b>Tolerance:</b></p> <p>±20% = M<br/> ±10% = K<br/> ±5% = J<br/> ±2.5% = H<br/> ±1% = E<br/> ...</p> <p><b>Packing:</b></p> <p>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/> ...</p> <p><b>Pin length (untaped)</b></p> <p>3.5 ±0.5 = C9<br/> 6-2 = SD<br/> 16 ±1 = P1<br/> ...</p> |
|---|--|---|--|--|

The data on this page is not complete and serves only to explain the part number system. Part number information is listed on the pages of the respective WIMA range.