Metallized Polypropylene (PP) - Capacitors in Cylindrical Case for DC-Link Applications

**Special Features**
- Very high volume/capacitance ratio
- Self-healing properties
- With cylindrical aluminium case for bus bar mounting
- Dry construction without electrolyte or oil
- No internal fuse required
- Negative capacitance change versus temperature
- Very low dielectric absorption
- According to RoHS 2002/95/EC

**Electrical Data**
- Capacitance range: 165 μF to 1560 μF
- Rated voltages: 600 VDC, 700 VDC, 900 VDC, 1100 VDC, 1300 VDC, 1500 VDC
- Capacitance tolerances: ±20%, ±10% (±5% available subject to special enquiry)
- Operating temperature range: -40°C to +85°C
- Insulation resistance at +20°C: ≥ 5000 sec (MΩ x μF)
  (mean value: 20,000 sec)
- Measuring voltage: 100 V/1 min.

**Dielectric loss factor** tan δd:
2 x 10⁻⁴

**Test voltage**: 1.5 U, 2 sec

**Dielectric absorption**: 0.05 %

**Reliability**:
- Operational life > 100,000 hours
- Failure rate < 50 fit (hot spot ≤ 70°C)

**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

**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**
Transportation-safe packing in cardboard boxes.
For further details and graphs please refer to Technical Information.

**Construction**

- **Dielectric**: Polypropylene (PP) film
- **Capacitor electrodes**: Vacuum-deposited
- **Internal construction**: Plastic film
  - Vacuum-deposited electrode
  - Metal contact layer (schoopage)
  - Termination

- **Encapsulation**: Aluminium case with PU-sealing, UL 94 V-0
- **Terminations**: Screw connection (male or female), screw bolt M12 x 16
- **Marking**: Colour: Metallic. Marking: Black on silver label.

The capacitors are non-polarized and are optionally available with „male“ and „female“ terminations. The earth bolt is electrically inactive and serves for fixing and/or earthing of the metal case.
General Data

<table>
<thead>
<tr>
<th>$U_R$</th>
<th>$C_N$</th>
<th>D x L mm</th>
<th>$I_{\text{rms}}$</th>
<th>$I_{\text{max}}$</th>
<th>ESR (1 kHz)$^*$</th>
<th>$R_{\text{th}}$</th>
<th>$L_{\text{N}}$</th>
<th>Approx. weight g</th>
<th>Part number</th>
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<tr>
<td>600 VDC</td>
<td>780 µF</td>
<td>85 x 120</td>
<td>30</td>
<td>1.6</td>
<td>5.3</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>700</td>
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<tr>
<td></td>
<td>1000 µF</td>
<td>85 x 132</td>
<td>35</td>
<td>1.7</td>
<td>4.2</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>850</td>
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<tr>
<td></td>
<td>1560 µF</td>
<td>85 x 210</td>
<td>60</td>
<td>1.3</td>
<td>2.7</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
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<td>85 x 120</td>
<td>30</td>
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<td>≤ 60</td>
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<td>700</td>
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<tr>
<td></td>
<td>750 µF</td>
<td>85 x 132</td>
<td>35</td>
<td>1.9</td>
<td>4.2</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>850</td>
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<tr>
<td></td>
<td>1170 µF</td>
<td>85 x 210</td>
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<td>≤ 60</td>
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<tr>
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<td>36</td>
<td>1.8</td>
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<td>≤ 60</td>
<td>850</td>
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<tr>
<td></td>
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<td>85 x 210</td>
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<td>85 x 132</td>
<td>40</td>
<td>2.5</td>
<td>4.2</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>850</td>
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<td></td>
<td>330 µF</td>
<td>85 x 210</td>
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<td>2.7</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>≤ 60</td>
<td>1400</td>
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Contacts can handle peak currents $I$ up to 5 kA
surge currents $I_S$ up to 20 kA

* General guide

![Diagram of female and male contacts]

<table>
<thead>
<tr>
<th>Part number completion:</th>
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<tbody>
<tr>
<td>Tolerance:</td>
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<tr>
<td>20 % = M</td>
</tr>
<tr>
<td>10 % = K</td>
</tr>
<tr>
<td>5 % = J</td>
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<td>Packing:</td>
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<tr>
<td>bulk = S</td>
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<tr>
<td>Connection: male = 0M</td>
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<tr>
<td>female = 0F</td>
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<table>
<thead>
<tr>
<th>D</th>
<th>L</th>
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<td>85</td>
<td>120</td>
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<td>85</td>
<td>132</td>
</tr>
<tr>
<td>85</td>
<td>210</td>
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</table>

Dims. in mm.

Customized capacitances or voltages on request.

Rights reserved to amend design data without prior notification.
A WIMA part number consists of 18 digits and is composed as follows:

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

| 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 |

**Type description:**
- SMD-PET = SMĐT
- SMD-PS = SMĐI
- FKP 02 = FKP0
- MKS 02 = MKS0
- FKS 2 = FKS2
- PK 2 = PK2
- FKS 3 = FKS3
- MKS 2 = MKS2
- PK 3 = PK3
- MKS 4 = MKS4
- MKP 4 = MKP4
- MKP 10 = MKP1
- PK 4 = PK4
- PK 1 = PK1
- MKP X2 = MKX2
- MKP X2 R = MKXR
- MKP Y2 = MKY2
- MP X2 = MPX2
- MP X1 = MPX1
- MP Y2 = MPY2
- MP 3R-Y2 = MP3Y
- Snubber MKP = SNMP
- Snubber FKP = SNFP
- GTO MKP = GTPM
- DC-LINK MKP 4 = DCP4
- DC-LINK MKP 5 = DCP5
- DC-LINK MKP 6 = DCP6
- DC-LINK HC = DCH_
- SuperCap C = SCSC
- SuperCap MC = SCMC
- SuperCap R = SCSR
- SuperCap MR = SCMIR

**Rated voltage:**
- 2.5 VDC = A1
- 4 VDC = A2
- 14 VDC = A3
- 28 VDC = A4
- 40 VDC = A5
- 5 VDC = A6
- 50 VDC = B0
- 63 VDC = C0
- 100 VDC = D0
- 160 VDC = E0
- 250 VDC = F0
- 500 VDC = G0
- 1500 VDC = I0
- 6800 VDC = O1
- 680 VDC = P0
- 1200 VDC = Q0
- 4700 VDC = X0
- 10000 VDC = Y0

**Capacitance:**
- 22 μF = 0022
- 47 μF = 0047
- 100 μF = 0100
- 150 μF = 0150
- 220 μF = 0220
- 330 μF = 0330
- 470 μF = 0470
- 680 μF = 0680
- 1000 μF = 1100
- 2200 μF = 1220
- 4700 μF = 1470
- 6800 μF = 1680
- 10000 μF = 1001
- 560 μF = 3100
- 22 μF = 0022
- 47 μF = 0047
- 100 μF = 0100
- 220 μF = 0220
- 470 μF = 0470
- 680 μF = 0680
- 1000 μF = 1100
- 2200 μF = 1220
- 4700 μF = 1470
- 6800 μF = 1680
- 10000 μF = 1001

**Size:**
- 4.8x3.3x3 Size 1812 = KA
- 4.8x3.3x4 Size 1812 = KB
- 5.7x5.1x3.5 Size 2200 = QA
- 5.7x5.1x4.5 Size 2200 = QB
- 7.2x6.1x3 Size 2824 = TA
- 7.2x6.1x5 Size 2824 = TB
- 10.2x7.6x5 Size 4030 = VA
- 12.7x10.2x6 Size 5040 = XA
- 15.5x13.7x7 Size 6054 = YA
- 2.5x7x4.6 PCM 2.5 = 0B
- 3x7.5x4.6 PCM 2.5 = 0C
- 2.5x6.5x7.2 PCM 5 = 1A
- 3x7.5x7.2 PCM 5 = 1B
- 2.5x7x10 PCM 7.5 = 2A
- 3x8.5x10 PCM 7.5 = 2B
- 3x9.9x13 PCM 10 = 3A
- 4.9x9.13 PCM 10 = 3C
- 5x11x18 PCM 15 = 4B
- 6x12.5x18 PCM 15 = 4C
- 5x14x26.5 PCM 22.5 = 5A
- 6x15x26.5 PCM 22.5 = 5B
- 9x19 x 31.5 PCM 27.5 = 6A
- 11 x21 x 31.5 PCM 27.5 = 6B
- 9x19 x 41.5 PCM 37.5 = 7A
- 11 x22 x 41.5 PCM 37.5 = 7B
- 94x49 x 182 DCH = H0
- 94x77 x 182 DCH = H1

**Tolerance:**
- 20% = M
- 10% = K
- 5% = J
- 2.5% = H
- 1% = E

**Packing:**
- AMMO H16.5 340 x 340 = A
- AMMO H16.5 490 x 370 = B
- AMMO H18.5 340 x 340 = C
- AMMO H18.5 490 x 370 = D
- REEL H16.5 360 = F
- REEL H16.5 500 = H
- REEL H18.5 360 = I
- REEL H18.5 500 = J
- ROLL H16.5 = N
- ROLL H18.5 = O
- BLUSTER W12 180 = P
- BLUSTER W12 330 = Q
- BLUSTER W16 330 = R
- BLUSTER W24 330 = T
- Bulk Standard = S
- TPS Standard = Y

**Special features:**
- Standard = 00
- Version A1 = 1A
- Version A1.1.1 = 1B
- Version A1.2 = 1C

**Lead length (untaped):**
- 3.5 ±0.5 = C9
- 6 - 2 = SD
- 16 ±1 = P1

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.