

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

### Special Features

- Very high volume/capacitance ratio
- Self-healing
- Cylindrical capacitor body with axial screw and thread connections size M6 or M8
- Internal series connection from 850 VDC
- Very low dissipation factor
- Negative capacitance change versus temperature
- Very low dielectric absorption
- According to RoHS 2002/95/EC

### Typical Applications

As intermediate circuit capacitor e.g. in high power converter technology

### Construction

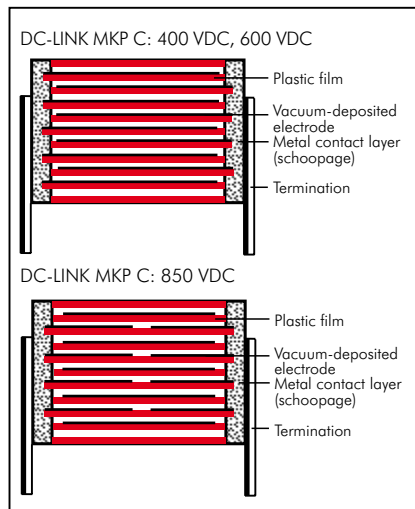
#### Dielectric:

Polypropylene (PP) film

#### Capacitor electrodes:

Vacuum-deposited

#### Internal construction:



#### Encapsulation:

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

#### Terminations:

Axial screw connection M6 or M8.

#### Marking:

Colour: Black. Marking: Gold.

### Electrical Data

#### Capacitance range:

30  $\mu$ F to 250  $\mu$ F

#### Rated voltages:

400 VDC, 600 VDC, 850 VDC

#### Capacitance tolerances:

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

#### Operating temperature range:

$-55^\circ\text{C}$  to  $+85^\circ\text{C}$

#### Climatic test category:

55/085/56 in accordance with IEC

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

$\geq 10\,000$  sec ( $\text{M}\Omega \times \mu\text{F}$ )

(mean value: 50 000 sec)

Measuring voltage: 100 V/1 min.

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

$\tan \delta \leq 15 \times 10^{-4}$  at 1 kHz

#### Test voltage:

$1.2 U_r$ , 2sec

#### Dielectric absorption:

0.05 %

#### Voltage derating:

A voltage derating factor of 1.35 % per K must be applied from  $+65^\circ\text{C}$  for DC voltages.

#### Reliability:

Operational life > 200 000 hours

Failure rate < 2 fit ( $0.5 \times U_r$  and  $40^\circ\text{C}$ )

#### Specific dissipation:

Box size W x L in mm	Specific dissipation in Watts per K above the ambient temperature
60 x 49	0.186
70 x 49	0.231
80 x 49	0.280
90 x 49	0.333
90 x 58	0.364
90 x 97	0.501

### 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. When fixing the capacitor the screw torque is to be limited to max. 5 Nm.

For further details and graphs please refer to Technical Information.

### Packing

Transportation-safe packing in cardboard boxes.

#### Packing units

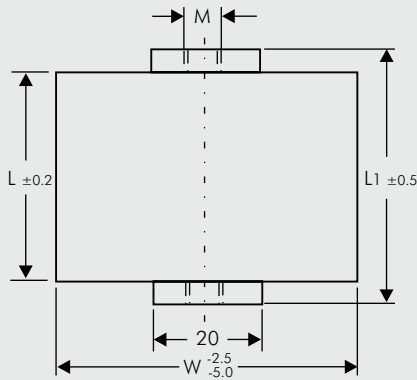
W	pcs. per packing unit
60	12
70	8
80	6
90	6

## Continuation

### General Data

Capacitance	400 VDC		600 VDC		850 VDC	
	W x L	Part number	W x L	Part number	W x L	Part number
30 $\mu$ F			60 x 49	DCPCI05300GA00_____		
40 "			70 x 49	DCPCI05400GB00_____		
50 "	60 x 49	DCPCG05500GA00_____	70 x 49	DCPCI05500GB00_____	90 x 97	DCPCM05500GF00_____
60 "	60 x 49	DCPCG05600GA00_____	80 x 49	DCPCI05600GC00_____	90 x 97	DCPCM05600GF00_____
70 "	60 x 49	DCPCG05700GA00_____	80 x 49	DCPCI05700GC00_____	90 x 97	DCPCM05700GF00_____
80 "	60 x 49	DCPCG05800GA00_____	90 x 49	DCPCI05800GD00_____	90 x 97	DCPCM05800GF00_____
90 "	70 x 49	DCPCG05900GB00_____	90 x 49	DCPCI05900GD00_____	90 x 97	DCPCM05900GF00_____
100 $\mu$ F	70 x 49	DCPCG06100GB00_____	90 x 58	DCPCI06100GE00_____	90 x 97	DCPCM06100GF00_____
110 "	70 x 49	DCPCG06110GB00_____	90 x 58	DCPCI06110GE00_____	90 x 97	DCPCM06110GF00_____
120 "	70 x 49	DCPCG06120GB00_____	90 x 58	DCPCI06120GE00_____		
130 "	80 x 49	DCPCG06130GC00_____				
140 "	80 x 49	DCPCG06140GC00_____				
150 "	80 x 49	DCPCG06150GC00_____				
160 "	80 x 49	DCPCG06160GC00_____				
170 "	90 x 49	DCPCG06170GD00_____				
180 "	90 x 49	DCPCG06180GD00_____				
190 "	90 x 49	DCPCG06190GD00_____				
200 $\mu$ F	90 x 49	DCPCG06200GD00_____				
210 "	90 x 58	DCPCG06210GE00_____				
220 "	90 x 58	DCPCG06220GE00_____				
230 "	90 x 58	DCPCG06230GE00_____				
240 "	90 x 58	DCPCG06240GE00_____				
250 "	90 x 58	DCPCG06250GE00_____				

Dims. in mm.



Part number completion:

Tolerance: 20 % = M

10 % = K

5 % = J

Packing: bulk = S

Lead length: none = 00

W	L	L1	M
60	49	55	M6
70	49	55	M6
80	49	55	M8
90	49	55	M8
90	58	64	M8
90	97	103	M8

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# WIMA Part Number System

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

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<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          SMD-PEN = SMDN          SMD-PPS = SMDI          FKP 02 = FKPO          MKS 02 = MKSO          FKS 2 = FKS2          FKM 2 = FKM2          FKP 2 = FKP2          MKS 2 = MKS2          MKP 2 = MKP2          MKI 2 = MKI2          FKS 3 = FKS3          FKM 3 = FKM3          FKP 3 = FKP3          MKS 4 = MKS4          MKM 4 = MKM4          MKP 4 = MKP4          MKP 10 = MKP1          FKP 4 = FKP4          FKP 1 = FKP1          MKP-X2 = MKX2          MKP-X2 R = MKXR          MKP-Y2 = MKY2          MP 3-X2 = MPX2          MP 3-X1 = MPX1          MP 3-Y2 = MPY2          MP 3R-Y2 = MPRY          Snubber MKP = SNMP          Snubber FKP = SNFP          GTO MKP = GTOM          DC-LINK MKP 4 = DCP4          DC-LINK MKP C = DCPC          DC-LINK HC = DCH_          SuperCap C = SCSC          SuperCap MC = SCMC          SuperCap R = SCSR          SuperCap MR = SCMR</p>	<p><b>Rated voltage:</b></p> <p>16 VDC = A0          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          400 VDC = G0          450 VDC = H0          600 VDC = I0          630 VDC = J0          700 VDC = K0          800 VDC = L0          850 VDC = M0          900 VDC = N0          1000 VDC = O1          1100 VDC = P0          1200 VDC = Q0          1250 VDC = R0          1500 VDC = S0          1600 VDC = T0          2000 VDC = U0          2500 VDC = V0          3000 VDC = W0          4000 VDC = X0          6000 VDC = Y0          250 VAC = 0W          275 VAC = 1W          300 VAC = 2W          400 VAC = 3W          440 VAC = 4W          500 VAC = 5W</p>	<p><b>Capacitance:</b></p> <p>22 pF = 0022          47 pF = 0047          100 pF = 0100          150 pF = 0150          220 pF = 0220          330 pF = 0330          470 pF = 0470          680 pF = 0680          1000 pF = 1100          1500 pF = 1150          2200 pF = 1220          3300 pF = 1330          4700 pF = 1470          6800 pF = 1680          0.01 µF = 2100          0.022 µF = 2220          0.047 µF = 2470          0.1 µF = 3100          0.22 µF = 3220          0.47 µF = 3470          1 µF = 4100          2.2 µF = 4220          4.7 µF = 4470          10 µF = 5100          22 µF = 5220          47 µF = 5470          100 µF = 6100          220 µF = 6220          1 F = A010          2.5 F = A025          50 F = A500          100 F = B100          110 F = B110          600 F = B600          1200 F = C120          ...</p>	<p><b>Size:</b></p> <p>4.8x3.3x3 Size 1812 = X1          4.8x3.3x4 Size 1812 = X2          5.7x5.1x3.5 Size 2220 = Y1          5.7x5.1x4.5 Size 2220 = Y2          7.2x6.1x3 Size 2824 = T1          7.2x6.1x5 Size 2824 = T2          10.2x7.6x5 Size 4030 = K1          12.7x10.2x6 Size 5040 = V1          15.3x13.7x7 Size 6054 = Q1          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          3x9x13 PCM 10 = 3A          4x9x13 PCM 10 = 3C          5x11x18 PCM 15 = 4B          6x12.5x18 PCM 15 = 4C          5x14x26.5 PCM 22.5 = 5A          6x15x26.5 PCM 22.5 = 5B          9x19x31.5 PCM 27.5 = 6A          11x21x31.5 PCM 27.5 = 6B          9x19x41.5 PCM 37.5 = 7A          11x22x41.5 PCM 37.5 = 7B          94x49x182 DCH_ = H0          94x77x182 DCH_ = H1          ...</p>	<p><b>Tolerance:</b></p> <p>20% = M          10% = K          5% = J          2.5% = H          1% = E          ...</p> <p><b>Packing:</b></p> <p>AMMO H16.5 340x340 = A          AMMO H16.5 490x370 = B          AMMO H18.5 340x340 = C          AMMO H18.5 490x370 = 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          BLISTER W12 180 = P          BLISTER W12 330 = Q          BLISTER W16 330 = R          BLISTER W24 330 = T          Bulk Mini = M          Bulk Standard = S          Bulk Maxi = G          TPS Mini = X          TPS Standard = Y          ...</p>	<p><b>Special features:</b></p> <p>Standard = 00          Version A1 = 1A          Version A1.1.1 = 1B          Version A1.2 = 1C          ...</p> <p><b>Lead length (untaped)</b></p> <p>3.5 ±0.5 = C9          6-2 = SD          16-1 = P4          ...</p>
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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.