

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

Special Features

- Very high volume/capacitance ratio
- Self-healing, internal safety disconnecter
- Versatile and safe contact configurations by screwable plates
- Dry construction without electrolyte or oil
- 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

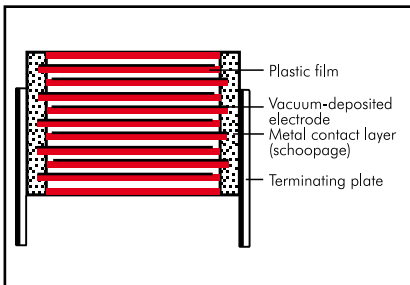
Dielectric:

Polypropylene (PP) film

Capacitor electrodes:

Vacuum-deposited

Internal construction:



Encapsulation:

Solvent resistant, flame-retardant plastic case with resin seal (optional screw fixing) or moulded version (without screw fixing), UL 94 V-0.

Terminations:

Tinned plates, customized plate configurations are possible.

Marking:

Colour: Black. Marking: Gold.

Electrical Data

Capacitance range:

85 μ F to 4500 μ F

Rated voltages:

400 VDC, 800 VDC, 1600 VDC

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$, ($\pm 5\%$ available subject to special enquiry)

Operating temperature:

-55° C to $+85^{\circ}$ C

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

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

(mean value: 100 000 sec)

Measuring voltage: 100 V/1 min.

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

See General Data.

Test voltage: 1.1 U_r , 2 sec

Dielectric absorption:

0.05 %

Voltage derating:

A voltage derating factor of 1.35 % per K must be applied from $+85^{\circ}$ C for DC voltages and from $+75^{\circ}$ C for AC voltages.

Reliability:

Operational life > 100 000 hours at 40° C

Failure rate < 36 fit ($10.5 \times U_r$ and 40° C)

Specific dissipation:

See General Data.

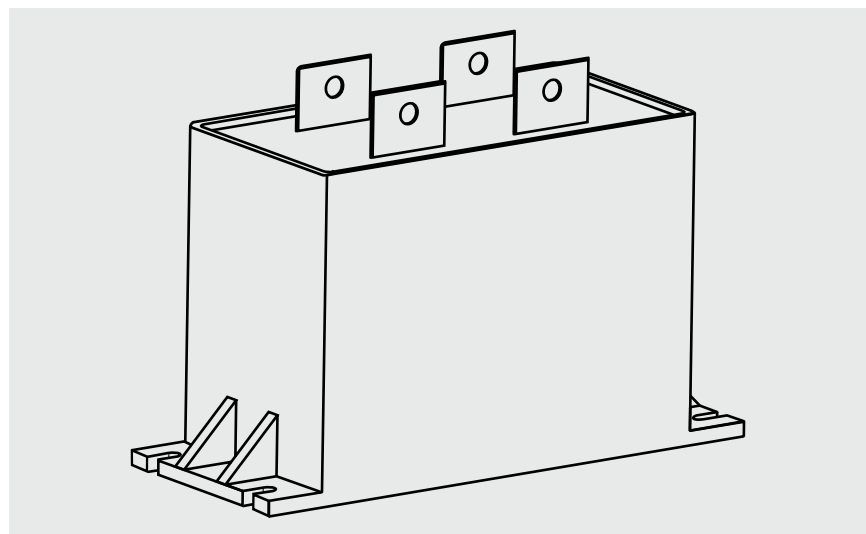
Mounting Recommendation

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.

Packing

Transportation-safe packing in cardboard boxes.

For further details and graphs please refer to Technical Information.



Continuation

General Data

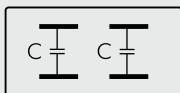
Capacitance			Size	Electrical parameters										Part number
400 VDC/ 180 VAC*	400 VDC/ 180 VAC*	800 VDC/ 360 VAC*	182x94x H in mm	$I_{max.}$ A		I_{rms} (1 kHz)** A		ESR (1 kHz)** mΩ		k_T W/K	$\tan \delta^{**}$ [x 10 ⁻⁴]			
V1	V2	V2		V1	V2	V1	V2	V1	V2		100 Hz	1 kHz		
2x 250 μF	500 μF	125 μF	49	5000	1250	65.4	32.7	1.43	5.73	0.613	8	45	DCH3G06250_00	
2x 500 „	1000 „	250 „	77	10 000	2500	103.5	51.7	0.72	2.87	0.767	8	45	DCH3G06500_00	
2x 750 „	1500 „	375 „	105	15 000	3750	139.0	69.5	0.48	1.91	0.922	8	45	DCH3G06750_00	
2x 1000 „	2000 „	500 „	133	20 000	5000	173.3	86.7	0.36	1.43	1.076	8	45	DCH3G07100_00	
2x 1250 „	2500 „	625 „	161	25 000	6250	196.7	98.3	0.32	1.27	1.231	11	50	DCH3G07125_00	
2x 1500 „	3000 „	750 „	189	30 000	7500	228.5	114.3	0.27	1.06	1.385	11	50	DCH3G07150_00	
2x 1750 „	3500 „	875 „	217	35 000	8750	248.1	124.1	0.25	1.00	1.540	11	55	DCH3G07175_00	
2x 2000 „	4000 „	1000 „	245	40 000	10 000	278.3	139.2	0.22	0.88	1.695	14	55	DCH3G07200_00	
2x 2250 „	4500 „	1125 „	285	45 000	11 250	298.7	157.4	0.21	0.76	1.893	14	60	DCH3G07225_00	

Capacitance			Size	Electrical parameters										Part number
800 VDC/ 240 VAC*	800 VDC/ 240 VAC*	1600 VDC/ 480 VAC*	182x94x H in mm	$I_{max.}$ A		I_{rms} (1 kHz)** A		ESR (1 kHz)** mΩ		k_T W/K	$\tan \delta^{**}$ [x 10 ⁻⁴]			
V1	V2	V2		V1	V2	V1	V2	V1	V2		100 Hz	1 kHz		
2x 170 μF	340 μF	85 μF	49	3740	935	61.2	30.6	1.64	6.55	0.613	7	35	DCH4L06170_00	
2x 340 „	680 „	170 „	77	7480	1870	96.8	48.4	0.82	3.28	0.767	7	35	DCH4L06340_00	
2x 510 „	1020 „	255 „	105	11 220	2805	129.9	65.0	0.55	2.18	0.922	7	35	DCH4L06510_00	
2x 680 „	1360 „	340 „	133	14 960	3740	162.1	81.0	0.41	1.64	1.076	7	35	DCH4L06680_00	
2x 850 „	1700 „	425 „	161	18 700	4675	181.3	90.7	0.37	1.50	1.231	10	40	DCH4L06850_00	
2x 1020 „	2040 „	510 „	189	22 440	5610	210.7	105.3	0.31	1.25	1.385	10	40	DCH4L07102_00	
2x 1190 „	2380 „	595 „	217	26 180	6545	226.2	113.1	0.30	1.20	1.540	10	45	DCH4L07119_00	
2x 1360 „	2720 „	680 „	245	29 920	7480	253.7	126.9	0.26	1.05	1.695	12	45	DCH4L07136_00	
2x 1530 „	3060 „	765 „	285	33 660	8415	269.8	134.9	0.26	1.04	1.893	12	50	DCH4L07153_00	

* AC voltages: $f < 100$ Hz

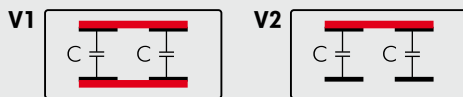
** General guide

The capacitors will be delivered without interconnection.

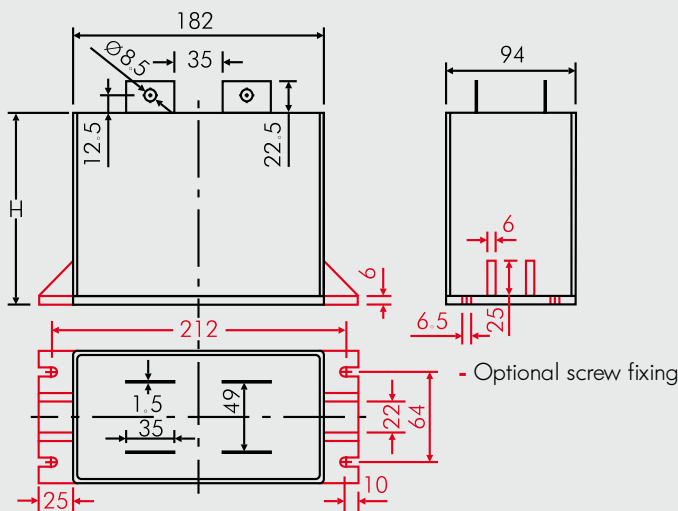


Insulated in the sense of a breakdown voltage of $2 \times U_r$ between the individual capacitors.

External wiring versions (to be implemented by user):



Customized solutions can be realized on request.



Part number completion:					
W	Size		Part number code for digit 11-12		
	H	L	moulded	boxed	box with screw fixing
94	49	182	H0	I0	J0
94	77	182	H1	I1	J1
94	105	182	H2	I2	J2
94	133	182	H3	I3	J3
94	161	182	H4	I4	J4
94	189	182	H5	I5	J5
94	217	182	H6	I6	J6
94	245	182	H7	I7	J7
94	285	182	H8	I8	J8

Tolerance: 20 % = M
10 % = K
5 % = J

Packing: bulk = S
Pin length: none = 00



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
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		

<p>Type description:</p> <p>SMD-PET = SMDT SMD-PPS = SMDI FKP 02 = FKP0 MKS 02 = MKS0 FKS 2 = FKS2 FKP 2 = FKP2 MKS 2 = MKS2 MKP 2 = MKP2 FKS 3 = FKS3 FKP 3 = FKP3 MKS 4 = MKS4 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 5 = DCP5 DC-LINK MKP 6 = DCP6 DC-LINK HC = DCH_ SuperCap C = SCSC SuperCap MC = SCMC SuperCap R = SCSR SuperCap MR = SCMR</p>	<p>Rated voltage:</p> <p>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>Capacitance:</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>Size:</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>Special features:</p> <p>Standard = 00 Version A1 = 1A Version A1.1.1 = 1B Version A1.2 = 1C ...</p>	<p>Tolerance:</p> <p>20% = M 10% = K 5% = J 2.5% = H 1% = E ...</p> <p>Packing:</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>Lead length (untaped)</p> <p>3.5 ±0.5 = C9 6 -2 = SD 16 ±1 = P1 ...</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.