

# DCB

## Metallized polypropylene film capacitor MKP - DC Link Capacitor - small size Up to 4 x terminals execution



### Main applications

DC capacitor for medium-low power DC-Link applications in inverters, AC / DC motor controls and welding equipments. **Not suitable for AC applications: refer to MHBA / MHBS series**

### Dielectric

Polypropylene

### Electrodes

Vacuum deposited metal layers

### Coating

Solvent resistant plastic case with resin sealing (UL 94 V-0). Flame retardant execution

### Construction

Extended metallized film (refer to general technical information)

### Terminals

Tinned copper wire (lead free). 2 and 4 leads execution.

### Degree of protection

IP00

### Installation

Whatever position assuring correct heat dissipation. Arrangement of many components with box walls in contact not admitted; suggested minimum distance between side by side elements  $\geq 1/8$  of the box thickness (B size)

### Reference standard

IEC 61071, IEC 60068, RoHS compliant

### Climatic category

40/85/21 (IEC 60068/1), GPE (DIN40040)

### Operating temperature range (case)

-40°...+85°C (at +85°C without power applied)

### Max. permissible ambient temperature

+70°C (operation at rated power, current, voltage and natural cooling)

### Rated capacitance (Cr)

7,5µF to 55µF. Refer to article table

### Capacitance tolerance (at 1kHz)

$\pm 10\%$  (code=K),  $\pm 5\%$  (code=J). Other tolerances upon request

### Capacitance temperature coefficient

Refer to graphs in general technical information

### Long term stability (at 1 kHz)

Capacitance variation  $\leq \pm 1\%$  after a period of 2 years at standard environmental conditions

### Rated voltage (Ur)

700, 900, 1100 Vdc

### Non recurrent surge voltage (Upk)

875, 1125, 1375 Vdc

### Max. repetitive peak voltage (Upkr)

1,15x Ur (30 minutes max./ day)

### Self inductance

$\leq 1$ nH/mm of capacitor pitch

### Maximum pulse rise time

Refer to article table

### Maximum peak current (Ipeak)

Refer to article table

### Dissipation factor (DF), max.

$Tg\delta \times 10^{-4}$ , measured at  $25\pm 5^\circ\text{C}$ , 1kHz

Cr $\leq 20\mu\text{F}$	Cr $> 20\mu\text{F}$
20	30

### Insulation resistance (IR)

$\geq 3000$ s when measured between terminals, at  $25\pm 5^\circ\text{C}$ , after 1 minute of electrification at 100Vdc

### Test voltage between terminals (Ut)

1,5xUr (DC) applied for 10s at  $25\pm 5^\circ\text{C}$

### Test voltage between terminals and case (Utc)

3kV 50=60Hz applied for 60s at  $25\pm 5^\circ\text{C}$

### Damp heat test (steady state)

Test conditions:

Temperature=  $+40\pm 2^\circ\text{C}$

Relative humidity=  $93\pm 2\%$

Test duration= 21 days

Performance:

Capacitance change  $\leq \pm 3\%$

DF change  $\leq 0.0010$  at 1kHz

IR  $\geq 50\%$  of initial limit value

### Typical capacitance change versus operating time

-5% after 100'000 hours at Ur

### Life expectancy

$\geq 100'000$  hours (Ur)

### Failure quota

300/10<sup>9</sup> component hours

### Resistance to soldering heat test

Test conditions:

Solder bath temperature=  $+260\pm 5^\circ\text{C}$

Dipping time (with heat screen)=  $10\pm 1$ s

Performance:

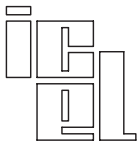
Capacitance change  $\leq \pm 1\%$

DF change  $\leq 0.0010$  at 1kHz

IR  $\geq 50\%$  of initial limit value

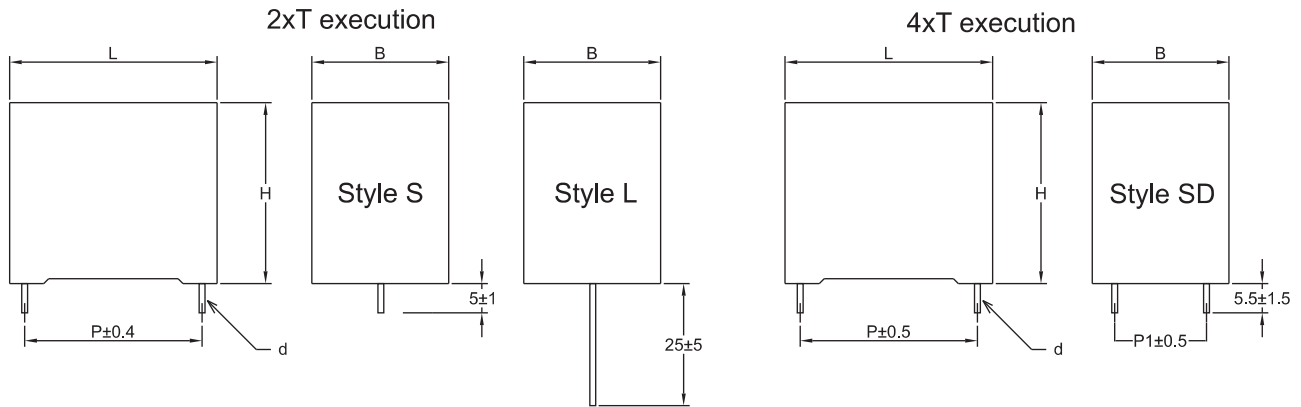
## Warning

This specification must be completed with the data given in the "General technical information" chapter



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DCB article table (different values available upon request)

Ur	Upk	Upkr	Cap.	Dimension in mm							du/dt	Ipeak	Irms <sup>(2)</sup>	ESR <sup>(3)</sup>	ICEL Code <sup>(1)</sup>
Vdc	Vdc	Vdc	µF	B	H	L	d	P	P1	V/µs	A	A	mΩ		
700	875	805	12,5	22	30	42,5	1,2	37,5	-	13	162,5	7,5	10,5	DCB1705125*J#	
700	875	805	15	22	33,5	42,5	1,2	37,5	-	13	195	8	9,3	DCB1705150*J#	
700	875	805	15	22	33,5	42,5	1,2	37,5	10,2	13	195	9,5	8,4	DCB1705150*JSD	
700	875	805	20	28	37	42,5	1,2	37,5	-	13	260	10	7,8	DCB1705200*J#	
700	875	805	20	28	37	42,5	1,2	37,5	10,2	13	260	12	6,9	DCB1705200*JSD	
700	875	805	22	28	37	42,5	1,2	37,5	-	13	286	10	7,4	DCB1705220*J#	
700	875	805	22	28	37	42,5	1,2	37,5	10,2	13	286	12	6,5	DCB1705220*JSD	
700	875	805	30	30	45	42,5	1,2	37,5	-	13	390	12,5	6,0	DCB1705300*J#	
700	875	805	30	30	45	42,5	1,2	37,5	20,3	13	390	15	5,1	DCB1705300*JSD	
700	875	805	45	30	45	57,5	1,2	52,5	-	10	400	13,5	6,3	DCB1705450*R#	
700	875	805	45	30	45	57,5	1,2	52,5	20,3	10	400	16,5	5,4	DCB1705450*RSD	
700	875	805	55	35	50	57,5	1,2	52,5	-	10	500	14	5,5	DCB1705550*R#	
700	875	805	55	35	50	57,5	1,2	52,5	20,3	10	500	19	4,6	DCB1705550*RSD	
900	1125	1035	10	22	33,5	42,5	1,2	37,5	-	16	160	7,5	10,3	DCB1905100*J#	
900	1125	1035	12	20	40	41,5	1,2	37,5	-	16	192	8,5	9,3	DCB1905120*J#	
900	1125	1035	12	20	40	41,5	1,2	37,5	10,2	16	192	10	8,4	DCB1905120*JSD	
900	1125	1035	15	28	37	42,5	1,2	37,5	-	16	240	9,5	8,4	DCB1905150*J#	
900	1125	1035	15	28	37	42,5	1,2	37,5	10,2	16	240	11,5	7,5	DCB1905150*JSD	
900	1125	1035	16	24	44	41,5	1,2	37,5	-	16	256	10	8,0	DCB1905160*J#	
900	1125	1035	16	24	44	41,5	1,2	37,5	10,2	16	256	12	7,1	DCB1905160*JSD	
900	1125	1035	20	30	45	42,5	1,2	37,5	-	16	320	11,5	7,1	DCB1905200*J#	
900	1125	1035	20	30	45	42,5	1,2	37,5	20,3	16	320	14	6,2	DCB1905200*JSD	
900	1125	1035	30	30	45	57,5	1,2	52,5	-	11	330	12,5	6,9	DCB1905300*R#	
900	1125	1035	30	30	45	57,5	1,2	52,5	20,3	11	330	15,5	6,0	DCB1905300*RSD	
900	1125	1035	40	35	50	57,5	1,2	52,5	-	11	440	14	6,0	DCB1905400*R#	
900	1125	1035	40	35	50	57,5	1,2	52,5	20,3	11	440	19	5,1	DCB1905400*RSD	
1100	1375	1265	7,5	22	33,5	42,5	1,2	37,5	-	20	150	7	11,6	DCB2114750*J#	
1100	1375	1265	10	28	37	42,5	1,2	37,5	-	20	200	9	9,6	DCB2115100*J#	
1100	1375	1265	10	28	37	42,5	1,2	37,5	10,2	20	200	10,5	8,7	DCB2115100*JSD	
1100	1375	1265	12,5	30	45	42,5	1,2	37,5	-	20	250	10,5	8,3	DCB2115125*J#	
1100	1375	1265	12,5	30	45	42,5	1,2	37,5	20,3	20	250	12,5	7,4	DCB2115125*JSD	
1100	1375	1265	20	30	45	57,5	1,2	52,5	-	13	260	12	7,9	DCB2115200*R#	
1100	1375	1265	20	30	45	57,5	1,2	52,5	20,3	13	260	14	7,0	DCB2115200*RSD	
1100	1375	1265	25	35	50	57,5	1,2	52,5	-	13	325	14	7,1	DCB2115250*R#	
1100	1375	1265	25	35	50	57,5	1,2	52,5	20,3	13	325	16	6,2	DCB2115250*RSD	

<sup>(1)</sup>Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10% and the # symbol with S for 5,5mm lead length and with L for 25 mm lead length - <sup>(2)</sup> Maximum values at 10kHz, +70°C, Cap. tol. ≤ ±10% - <sup>(3)</sup> Typical values at 10kHz

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