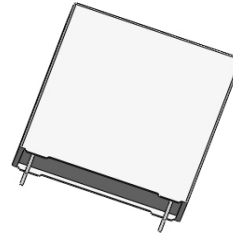


Metallized Polypropylene Film Capacitor (Plastic Case) DC-Link Application (2 or 4 pins)

DPB

High capacity DC Filter Capacitor consists of metallized polypropylene film, plastic casing sealed with epoxy. This capacitor is suitable for use in DC filter circuits, Solar Inverter, Industrial Inverter.



FEATURES

Low ESR, high ripple current.

High capacitance density.

Self-healing property and high reliability.

Suitable for high frequency application.

APPLICATIONS

DC filtering.

Energy storage.

ELECTRICAL CHARACTERISTICS

Rated Voltage:	450Vdc ~ 1200Vdc
Capacitance range:	1 μ F - 100 μ F
Capacitance Tolerance:	$\pm 5\%$ (J), $\pm 10\%$ (K)
Dissipation Factor::	≤ 0.001 (0.1%) at 100 Hz at 25°C
Test Voltage Between Terminal:	1.5 x rated voltage for 10s (terminal to terminal)
Test Voltage Terminals to Case:	3.0 KVac 50Hz/60Hz for 10s at 25 °C
Insulation Resistance:	IR x C $\geq 30,000$ s at 100Vdc 1 min at 25 °C
Life Expectancy:	100,000 hours at Un @ hot-spot temperature T=+85 °C
Damp Heat:	IEC 60068-2-78
Change of Temperature:	IEC 60068-2-14

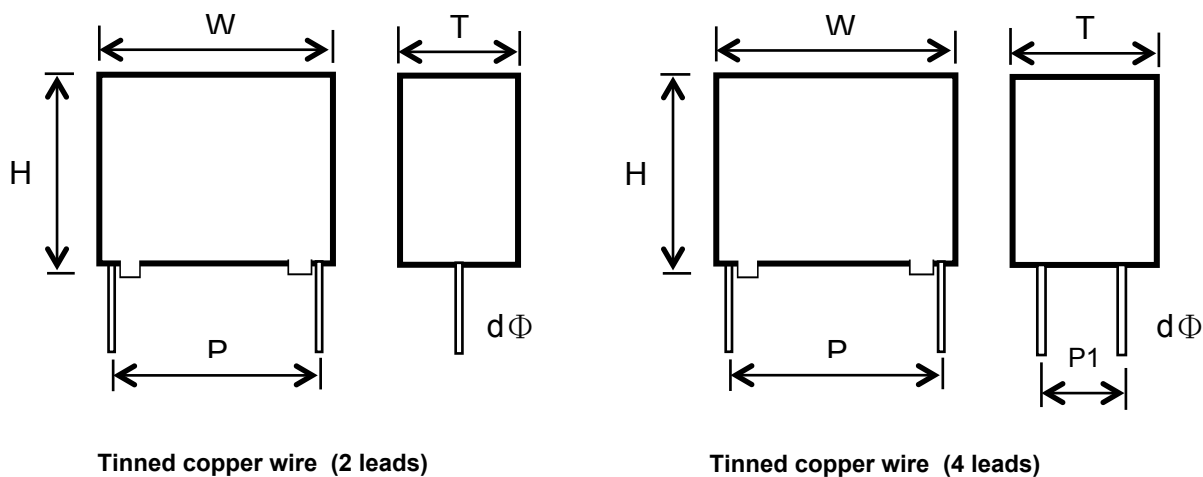
GENERAL TECHNICAL DATA

Application:	DC filtering / DC link
Standard:	IEC 61071
Climatic Category:	40/85/21 IEC 60068-1
Maximum Operating Temperature:	+105°C
Upper Temperature T max:	+85°C
Lower Temperature T min:	-40°C
Protection:	Solvent resistant plastic case UL94 V-0, Thermo setting resin sealing UL 94 V-0 compliant
Leads:	Tinned copper wires, standard lead wire length 5 $\pm$ 1mm
Packaging:	Packed in cardboard boxes with protection for the terminals
RoHS Compliant:	Compliant with the restricted substance requirements of Directive 2002/95/EC

Metallized Polypropylene Film Capacitor (Plastic Case) DC-Link Application (2 or 4 pins)

DPB

■ DIMENSION



■ DIMENSION - Lead Wires (mm)

Number of Lead Wires	Lead Spacing (P ± 0.5)	Lead Diameter (dΦ ± 0.1)
2 - pin	27.5	0.8
2 - pin	37.5	1.0
4 - pin	37.5	1.2
4 - pin	52.5	1.2

■ DIMENSION - Case (mm)

Case Code	W (±1)	H (±1)	T (±1)	P (±0.5)
R20	32	22	13	27.5
R31	32	24.5	15	27.5
R50	32	28	14	27.5
R60	32	28	18	27.5
R80	32	33	18	27.5
R94	32	37	22	27.5
T10	42.5	45	30	37.5
T23	42.5	33.5	22	37.5
T33	42.5	40	20	37.5
T42	42.5	37	28	37.5
T60	42.5	18	24	37.5
T61	42.5	44	24	37.5
K10	57.5	45	30	52.5
K20	57.5	50	35	52.5

Metallized Polypropylene Film Capacitor (Plastic Case)

DC-Link Application (2 or 4 pins)

DPB

DIMENSION (Part Number Reference)

Vdc	Cap	Dimensions			P	P1	Irms	Peak	ESR	ESL	Thermal	dv/dt	Pkg	Part Number
	Value	W	H	T			10KHz	Current	10KHz		Res		Qty	
	uF	mm	mm	mm			70°C A	A	mΩ		°C/W	V/us	pcs	
450	10	32	28	14	27.5	\	7.5	150	8.0	26	33	15	115	DPB-106K2WB27L5AR50
450	18	32	37	22	27.5	\	11	270	6.0	28	23	15	75	DPB-186K2WB27L5AR94
450	20	32	37	22	27.5	\	12.5	300	5.0	28	23	15	75	DPB-206K2WB27L5AR94
450	40	42.5	37	28	37.5	10.2	14	400	6.0	30	18	10	42	DPB-406K2W437B5AT42
450	80	57.5	45	30	52.5	20.3	16	560	5.3	35	12	7	25	DPB-806K2W452D5AK10
450	100	57.5	50	35	52.5	20.3	18	700	5.0	35	10	7	20	DPB-107K2W452D5AK20
550	5	32	22	13	27.5	\	6	85	16.5	25	42	17	125	DPB-505K2YB27L5AR20
550	10	32	33	18	27.5	\	10	170	8.0	26	29	17	90	DPB-106K2YB27L5AR80
550	15	32	37	22	27.5	\	13	255	5.5	28	23	17	75	DPB-156K2YB27L5AR94
550	20	42.5	40	20	37.5	10.2	12.5	220	6.5	30	20	11	55	DPB-206K2Y437B5AT33
550	75	57.5	50	35	52.5	20.3	17	600	5.0	35	10	8	20	DPB-756K2Y452D5AK20
550	100	57.5	50	35	52.5	20.3	18.5	800	4.5	35	10	8	20	DPB-107K2Y452D5AK20
600	5	32	28	14	27.5	\	6	90	10.5	26	33	18	115	DPB-505K2YB27L5AR50
600	10	32	33	18	27.5	\	8.5	180	7.0	26	23	18	75	DPB-106K2RB27L5AR80
600	15	32	37	22	27.5	\	10.5	270	7.5	28	23	18	75	DPB-156K2RB27L5AR94
600	20	42.5	40	20	37.5	10.2	11	240	6.0	30	20	12	55	DPB-206K2R437B5AT33
600	30	42.5	37	28	37.5	10.2	13	360	5.5	30	18	12	42	DPB-306K2R437B5AT42
600	40	42.5	45	30	37.5	20.3	18	480	4.0	35	15	12	35	DPB-406K2R437D5AT10
600	50	57.5	50	35	52.5	20.3	14	450	6.5	35	10	9	20	DPB-506K2R452D5AK20
600	80	57.5	50	35	52.5	20.3	19	720	5.0	35	10	9	20	DPB-806K2R452D5AK20
700	5	32	28	14	27.5	\	6	100	10.5	26	33	20	115	DPB-505K2SB27L5AR50
700	10	32	33	18	27.5	\	10	200	7.0	26	29	20	90	DPB-106K2SB27L5AR80
700	10	42.5	18	24	37.5	\	11.5	140	7.5	30	33	14	49	DPB-106K2SB37L5AT60
700	15	42.5	33.5	22	37.5	\	9	210	9.0	30	21	14	50	DPB-156K2SB37L5AT23
700	15	42.5	33.5	22	37.5	10.2	10	210	8.0	30	21	14	50	DPB-156K2S437B5AT23
700	20	42.5	37	28	37.5	10.2	12	280	6.0	30	18	14	42	DPB-206K2S437B5AT42
700	22	42.5	44	24	37.5	10.2	14	308	5.5	30	17	14	49	DPB-226K2S437B5AT61
700	30	42.5	45	30	37.5	20.3	16	300	4.5	30	15	10	35	DPB-306K2S437D5AT10
700	40	57.5	45	30	52.5	20.3	14	400	6.0	35	12	10	25	DPB-406K2S452D5AK10
700	45	57.5	45	30	52.5	20.3	15.5	450	5.5	35	12	10	25	DPB-456K2S452D5AK10
700	50	57.5	50	35	52.5	20.3	15	500	5.5	35	10	10	20	DPB-506K2S452D5AK20
700	55	57.5	50	35	52.5	20.3	16	550	4.5	35	10	10	20	DPB-556K2S452D5AK20
700	60	57.5	50	35	52.5	20.3	18	600	4.0	35	10	10	20	DPB-606K2S452D5AK20
700	65	57.5	50	35	52.5	20.3	17	650	5.0	35	10	10	20	DPB-656K2S452D5AK20
800	3.3	32	28	14	27.5	\	4	72.6	19.5	25	33	22	115	DPB-335K2KB27L5AR50
800	9	32	33	18	27.5	\	10	198	11.0	26	29	22	90	DPB-905K2KB27L5AR80
800	10	32	37	22	27.5	\	11.5	220	9.5	28	23	22	75	DPB-106K2KB27L5AR94
800	25	42.5	45	30	37.5	20.3	14	425	6.8	30	15	17	35	DPB-256K2K437D5AT10
800	35	57.5	45	30	52.5	20.3	14.2	420	6.5	35	12	12	20	DPB-356K2U452D5AK20
800	47	57.5	50	35	52.5	20.3	17.5	564	5.0	35	10	12	20	DPB-476K2K452D5AK20
800	50	57.5	50	35	52.5	20.3	16	600	5.0	35	10	12	20	DPB-506K2K452D5AK20
800	55	57.5	50	35	52.5	20.3	17	660	5.0	35	10	12	20	DPB-556K2K452D5AK20

Metallized Polypropylene Film Capacitor (Plastic Case)

DC-Link Application (2 or 4 pins)

DPB

DIMENSION (Part Number Reference)

Vdc	Cap	Dimensions			P	P1	Irms	Peak	ESR	ESL	Thermal	dv/dt	Pkg	Part Number
	Value	W	H	T			10KHz	Current	10KHz		Res		Qty	
	uF	mm	mm	mm			70°C A	A	mΩ		°C/W		pcs	
900	3	32	24.5	15	27.5	\	5	78	18.5	25	38	26	110	DPB-305K2UB27L5AR31
900	5	32	28	18	27.5	\	7	130	9.5	26	29	26	90	DPB-505K2UB27L5AR60
900	10	42.5	33.5	22	37.5	\	8.5	190	12.0	30	21	19	50	DPB-106K2UB37L5AT23
900	10	42.5	33.5	22	37.5	10.2	9.5	190	11.5	30	21	19	50	DPB-106K2U437B5AT23
900	15	42.5	44	24	37.5	\	11	285	8.0	30	17	19	49	DPB-156K2UB37L5AT61
900	15	42.5	44	24	37.5	10.2	12	285	7.5	30	17	19	49	DPB-156K2U437B5AT61
900	20	42.5	45	30	37.5	\	14	380	6.0	30	15	19	35	DPB-206K2UB37L5AT10
900	20	42.5	45	30	37.5	20.3	15	280	5.5	30	15	14	35	DPB-206K2U437D5AT10
900	30	57.5	45	30	52.5	20.3	15	420	5.5	35	12	14	25	DPB-306K2U452D5AK10
900	35	57.5	50	35	52.5	20.3	15.5	490	5.5	35	10	14	20	DPB-356K2U452D5AK20
900	40	57.5	50	35	52.5	20.3	16	560	6.5	35	10	14	20	DPB-406K2U452D5AK20
900	50	57.5	50	35	52.5	20.3	16.5	700	5.0	35	10	14	20	DPB-506K2U452D5AK20
900*	50	57.5	50	35	52.5	20.3	18	700	3.6	35	10	14	20	DPB-506K2U452D5AK20
1000	5	32	37	22	27.5	\	7.8	150	11.0	30	23	30	75	DPB-505K3AB27L5AR94
1000	12	42.5	44	24	37.5	10.2	13	240	9.0	30	17	20	49	DPB-126K3A437B5AT61
1000	15	42.5	45	30	37.5	20.3	14	300	7.5	30	15	20	35	DPB-156K3A437D5AT10
1000	20	57.5	45	30	52.5	20.3	11	300	10.5	35	12	15	25	DPB-206K3A452D5AK10
1000	30	57.5	50	35	52.5	20.3	15	450	6.5	35	10	15	20	DPB-306K3A452D5AK20
1000	40	57.5	50	35	52.5	20.3	16	600	60.0	35	10	15	20	DPB-406K3A452D5AK20
1100	2.2	32	28	14	27.5	\	5	70.4	16.5	26	33	32	115	DPB-225K3LB27L5AR50
1100	3.3	32	28	18	27.5	\	6.5	105.6	11.5	26	29	32	90	DPB-335K3LB27L5AR60
1100	5	32	37	22	27.5	\	8.5	160	9.5	28	23	32	75	DPB-505K3LB27L5AR94
1100	6.8	42.5	33.5	22	37.5	10.2	12	163.2	13.5	30	21	24	50	DPB-685K3L437B5AT23
1100	10	42.5	44	24	37.5	\	14	240	9.0	30	17	24	49	DPB-106K3LB37L5AT61
1100	10	42.5	44	24	37.5	10.2	15	240	8.5	30	17	24	49	DPB-106K3L437B5AT61
1100	12	42.5	45	30	37.5	\	15.5	288	7.5	30	15	24	35	DPB-126K3LB37L5AT10
1100	20	57.5	45	30	52.5	20.3	12	320	8.5	35	12	16	25	DPB-206K3L452D5AK10
1100	30	57.5	45	30	52.5	20.3	15	480	5.0	35	12	16	25	DPB-306K3L452D5AK10
1100	40	57.5	50	35	52.5	20.3	17	640	5.5	35	10	16	20	DPB-406K3L452D5AK20
1200	1	32	24.5	15	27.5	\	4	34	32.5	25	38	34	110	DPB-105K3MB27L5AR31
1200	2.2	32	28	18	27.5	\	5.5	74.8	16.0	26	29	34	90	DPB-225K3MB27L5AR60
1200	3.3	32	37	22	27.5	\	7.5	112.2	13.5	28	23	34	75	DPB-335K3MB27L5AR94
1200	5	42.5	33.5	22	37.5	\	7.5	130	15.5	30	21	26	50	DPB-505K3MB37L5AT23
1200	10	42.5	45	30	37.5	\	11	260	8.5	30	15	26	35	DPB-106K3MB37L5AT10
1200	10	42.5	45	30	37.5	20.3	12	260	8.0	30	15	26	35	DPB-106K3M437D5AT10
1200	12	57.5	45	30	52.5	20.3	9	216	12.5	35	12	18	25	DPB-126K3M452D5AK10
1200	15	57.5	50	35	52.5	20.3	10	270	11.0	35	10	18	20	DPB-156K3M452D5AK20

Metallized Polypropylene Film Capacitor (Plastic Case)

DC-Link Application (2 or 4 pins)

DPB

PART NUMBERING SYSTEMS

■ EXPLANATION OF ARTICLE CODE

D P B -	4 0 6	K	2 S	4	5 2	D	5
①	②	③	④	⑤	⑥	⑦	⑧

① Capacitor Type

TYPE	DPB
CODE	DPB-

② Rated Capacitance (EIA Code)

The rated Capacitance value of the product is indicated with three digits. The first two digits indicate the two most significant digits of the capacitance value, and the third digit gives the number of following zeroes. This gives the capacitance value expressed in picofarads.

Examples:

105	=	1,000,000pF	=	1,000nF	=	1uF
106	=	10,000,000pF	=	10,000nF	=	10uF

③ Capacitance Tolerance

TOLERANCE	±5%	±10%	±20%
CODE	J	K	M

④ Rated Voltage

Code for DC Voltage: (expressed in one digit & one letter code)

Vdc	450V	500V	550V	600V	700V	800V	900V	1000V	1100V	1200V
CODE	2W	2H	2Y	2R	2S	2K	2U	3A	3L	3M

⑤ Lead Configuration

LEAD TYPE	2 Lead		4 Lead
	Long	Cut	Cut
CODE	L	B	4

⑥ Lead Pitch (P) mm

LEAD PITCH	22.5	27.5	32.5	37.5	42.5	47.5	52.5	57.5
CODE	22	27	32	37	42	47	52	57

⑦ Ipsilateral Lead Space (P1) mm

LEAD SPACE	5.1	10.2	12.7	16.0	20.3
CODE	A	B	G	C	D

⑧ Lead Length (mm)

TYPE	Long	Cut
LENGTH	15 (min)	5.0
CODE	L	5

Metallized Polypropylene Film Capacitor (Plastic Case) DC-Link Application (2 or 4 pins)

DPB

PART NUMBERING SYSTEMS

■ PERFORMANCE NOTE

R_s : Equivalent series resistance - Ohmic resistances (Ohm)

Dielectric Dissipation Factor: $\tan\delta$ (Polypropylene: 0.0002)

T_a : Ambient temperature

R_{th} : Thermal resistance °C/W, indicates hot spot temperature rise due to power dissipation losses

P_j : Joule losses $P_j = R_s \cdot I_{rms}^2$

P_d : Dielectric losses

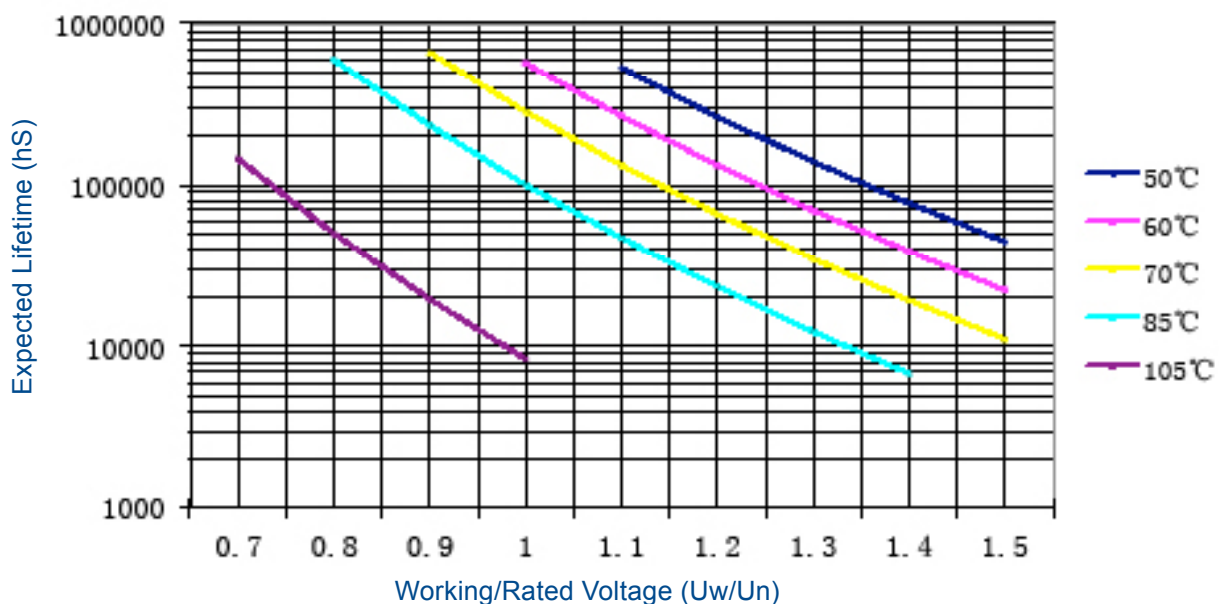
$$P_d = X_c \cdot I_{rms}^2 \cdot \tan\delta = I_{rms}^2 / (2 \cdot \pi \cdot f \cdot C) \cdot \tan\delta$$

T_{hs} : Hot spot temperature within the capacitor

$$T_{hs} = T_a + (P_j + P_d) \cdot R_{th}$$

Design life: 100,000 hours at U_n @ Hot-Spot temperature $\leq +85^\circ\text{C}$

Expected Life Curve



■ CAUTIONS AND WARNING

- Don't exceed the upper category temperature.
- For longtime storage, maximum relative humidity 80%, no dew allowed on the capacitor.
- Do not use or store capacitor in corrosive atmosphere, in the dusty environments regular maintenance and cleaning especially of the terminals is required to avoid conductive path between terminal / or terminal and ground.
- Don't apply any mechanical stress to the capacitor terminals, and avoid any compressive, tensile or flexural stresses.
- Don't move the capacitor after soldered to the PC board, and don't pick up the PC board by soldered capacitor.
- Don't place the capacitor on a PC board whose holes pitch differs from the specified space.
- Avoid overload of the capacitors
- Do not have unlimited service life expectancy, the max service life expectancy may vary depending on the application the capacitor is used in.