Type BPMC Polypropylene Board Mount DC Link Capacitors

PCB Mount Power Film Capacitors

Type BPMC series uses the most advanced metallized film technology for long life and high reliability in DC Link applications. This series combines high capacitance and very high ripple current capability needed for today's inverter designs for medium power wind, solar, fuel cells, UPS systems and more.

Highlights

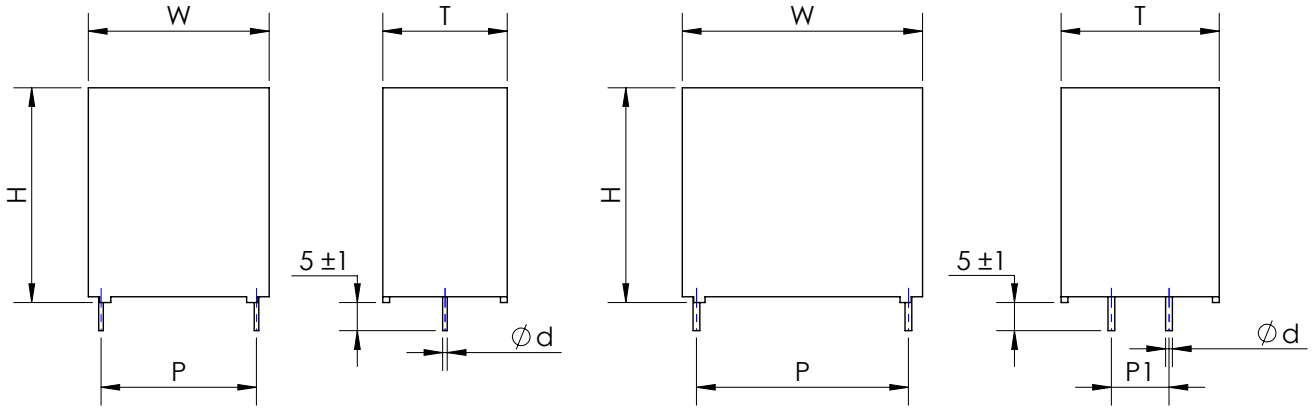
- Self-healing
- High capacitance density
- High ripple current
- Low losses

Specifications

Capacitance Range	1 to 100 µF
Capacitance Tolerance	±5% or 10% at +25 °C
Rated Voltage	450 to 1200 Vdc
Maximum Operating Temperature	+105 °C
Upper Temperature T max.	+85 °C
Lower Temperature T min.	-40 °C
Test Voltage between Terminals @ 25 °C	150% rated DC voltage for 10 s
Test Voltage between Terminals and Case @ 25°C	3 kVac @ 50/60 Hz for 10 s
Insulation Resistance	IR x C ≥ 30,000 MΩ x µF at100 Vdc 1 min. @ 25 °C
Life Expectancy	100,000 hours at Vr and Tc ≤ +85 °C
Climatic Category	40/85/21 IEC 60068-1
Reference Standards	IEC 61071
RoHS Compliant	

Dimensions

Construction Details	
Case Material	Plastic UL94V-0
Resin Material	Dry Resin UL94V-0
Terminal Material	Tin Plated Copper



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Part Numbering System

BPMC	306	K	701	M	4	375
SERIES	CAP	CAP TOLERANCE	VOLT	CASE CODE	LEADS	L-S
BPMC	EIA CAPACITANCE CODE	K = ±10% (standard)	451 = 450Vdc	See table	2 = 2 leads	Primary Lead Spacing
	105 = 1µF	J = ±5% upon request	551 = 550Vdc		4 = 4 leads	275 = 27.5mm
	335 = 3.3µF		601 = 600Vdc			375 = 37.5mm
	106 = 10µF		701 = 700Vdc			525 = 52.5mm
	306 = 30µF		801 = 800Vdc			
	107 = 100µF		901 = 900Vdc			
			102 = 1000Vdc			
			112 = 1100Vdc			
			122 = 1200Vdc			

Case Dimensions

	W	H	T	P	P1	d	
CASE	±1.0	±1.0	±1.0	±0.5	±0.5	±0.1	PKG QTY
CODE	mm	mm	mm	mm	mm	mm	PCS
A2	32	22	13	27.5	-	0.8	125
B2	32	24.5	15	27.5	-	0.8	110
C2	32	28	14	27.5	-	0.8	115
D2	32	28	18	27.5	-	0.8	90
E2	32	33	18	27.5	-	0.8	90
F2	32	37	22	27.5	-	0.8	75
G2	42.5	18	24	37.5	-	1.0	49
H2	42.5	33.5	22	37.5	-	1.0	49
H4	42.5	33.5	22	37.5	10.2	1.2	49
J4	42.5	40	20	37.5	10.2	1.2	56
K4	42.5	37	28	37.5	10.2	1.2	42
L2	42.5	44	24	37.5	-	1.0	49
L4	42.5	44	24	37.5	10.2	1.2	49
M2	42.5	45	30	37.5	-	1.0	35
M4	42.5	45	30	37.5	20.3	1.2	35
N4	42.5	50	35	37.5	20.3	1.2	28
P4	57.5	45	30	52.5	20.3	1.2	25
Q4	57.5	50	35	52.5	20.3	1.2	20
R4	57.5	60	35	52.5	20.3	1.2	20

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Ratings

CDE Part Number	Cap Value µF	ESR 10kHz mΩ	Irms 10kHz 70°C A	ESL nH	dv/dt V/µs	Peak Current A	Thermal Res °C/W	Dimensions W mm	H mm	T mm	P mm	P1 mm
450 Vdc												
BPMC106K451C2275	10	8	7.5	26	15	150	33	32	28	14	27.5	-
BPMC186K451F2275	18	6	11	28	15	270	23	32	37	22	27.5	-
BPMC206K451F2275	20	5	12.5	28	15	300	23	32	37	22	27.5	-
BPMC406K451K4375	40	6	14	30	10	400	18	42.5	37	28	37.5	10.2
BPMC806K451P4525	80	5.3	16	35	7	560	12	57.5	45	30	52.5	20.3
BPMC107K451Q4525	100	5	18	35	7	700	10	57.5	50	35	52.5	20.3
550 Vdc												
BPMC505K551A2275	5	16.5	6	25	17	85	42	32	22	13	27.5	-
BPMC106K551E2275	10	8	10	26	17	170	29	32	33	18	27.5	-
BPMC156K551F2275	15	5.5	13	28	17	255	23	32	37	22	27.5	-
BPMC206K551J4375	20	6.5	12.5	30	11	220	20	42.5	40	20	37.5	10.2
BPMC756K551Q4525	75	5	17	35	8	600	10	57.5	50	35	52.5	20.3
BPMC107K551Q4525	100	4.5	18.5	35	8	800	10	57.5	50	35	52.5	20.3
600 Vdc												
BPMC505K601C2275	5	10.5	6	26	18	90	33	32	28	14	27.5	-
BPMC106K601E2275	10	7	8.5	26	18	180	23	32	33	18	27.5	-
BPMC156K601F2275	15	7.5	10.5	28	18	270	23	32	37	22	27.5	-
BPMC206K601J4375	20	6	11	30	12	240	20	42.5	40	20	37.5	10.2
BPMC306K601K4375	30	5.5	13	30	12	360	18	42.5	37	28	37.5	10.2
BPMC406K601M4375	40	4	18	35	12	480	15	42.5	45	30	37.5	20.3
BPMC506K601Q4525	50	6.5	14	35	9	450	10	57.5	50	35	52.5	20.3
BPMC806K601Q4525	80	5	19	35	9	720	10	57.5	50	35	52.5	20.3
700 Vdc												
BPMC505K701C2275	5	10.5	6	26	20	100	33	32	28	14	27.5	-
BPMC106K701E2275	10	7	10	26	20	200	29	32	33	18	27.5	-
BPMC106K701G2375	10	7.5	10	30	14	140	33	42.5	18	24	37.5	-
BPMC156K701H2375	15	9	9	30	14	210	21	42.5	33.5	22	37.5	-
BPMC156K701H4375	15	8	10	30	14	210	21	42.5	33.5	22	37.5	10.2
BPMC206K701K4375	20	6	12	30	14	280	18	42.5	37	28	37.5	10.2
BPMC226K701L4375	22	5.5	14	30	14	308	17	42.5	44	24	37.5	10.2
BPMC306K701M4375	30	4.5	16	30	10	300	15	42.5	45	30	37.5	20.3
BPMC406K701P4525	40	6	14	35	10	400	12	57.5	45	30	52.5	20.3
BPMC456K701P4525	45	5.5	15.5	35	10	450	12	57.5	45	30	52.5	20.3
BPMC506K701Q4525	50	5.5	15	35	10	500	10	57.5	50	35	52.5	20.3
BPMC556K701Q4525	55	4.5	16	35	10	550	10	57.5	50	35	52.5	20.3
BPMC606K701Q4525	60	4	18	35	10	600	10	57.5	50	35	52.5	20.3
BPMC656K701Q4525	65	5	17	35	10	650	10	57.5	50	35	52.5	20.3
800Vdc												
BPMC335K801C2275	3.3	19.5	4	25	22	72	33	32	28	14	27.5	-
BPMC905K801E2275	9	11	9	26	22	198	29	32	33	18	27.5	-
BPMC106K801F2275	10	9.5	10.5	28	22	220	23	32	37	22	27.5	-
BPMC256K801M4375	25	6.8	14	30	17	425	15	42.5	45	30	37.5	20.3
BPMC356K801P4525	35	6.5	14.2	35	12	420	12	57.5	45	30	52.5	20.3

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	Cap	ESR	Irms	ESL		Peak	Thermal	Dimensions				
	Value	10kHz	10kHz		dv/dt	Current	Res	W	H	T	P	P1
CDE Part Number	µF	mΩ	70°C A	nH	V/µs	A	°C/W	mm	mm	mm	mm	mm
					800Vdc							
BPMC476K801Q4525	47	5	17.5	35	12	564	10	57.5	50	35	52.5	20.3
BPMC506K801Q4525	50	5	16	35	12	600	10	57.5	50	35	52.5	20.3
BPMC556K801Q4525	55	5	17	35	12	660	10	57.5	50	35	52.5	20.3
BPMC656K801R4525	65	3.8	19	35	12	780	10	57.5	60	35	52.5	20.3
					900 Vdc							
BPMC305K901B2275	3	18.5	5	25	26	78	38	32	24.5	15	27.5	-
BPMC505K901D2275	5	9.5	7	26	26	130	29	32	28	18	27.5	-
BPMC106K901H2375	10	12	8.5	30	19	190	21	42.5	33.5	22	37.5	-
BPMC106K901H4375	10	11.5	9.5	30	19	190	21	42.5	33.5	22	37.5	10.2
BPMC156K901L2375	15	8	11	30	19	285	17	42.5	44	24	37.5	-
BPMC156K901L4375	15	7.5	12	30	19	285	17	42.5	44	24	37.5	10.2
BPMC206K901M2375	20	6	14	30	19	380	15	42.5	45	30	37.5	-
BPMC206K901M4375	20	5.5	15	30	14	280	15	42.5	45	30	37.5	20.3
BPMC306K901N4375	30	5	17	30	19	570	15	42.5	50	35	37.5	20.3
BPMC306K901P4525	30	5.5	15	35	14	420	12	57.5	45	30	52.5	20.3
BPMC356K901Q4525	35	5.5	15.5	35	14	490	10	57.5	50	35	52.5	20.3
BPMC406K901Q4525	40	6.5	16	35	14	560	10	57.5	50	35	52.5	20.3
BPMC506K901Q4525	50	3.6	18	35	14	700	10	57.5	50	35	52.5	20.3
BPMC556K901R4525	55	3.5	19	35	14	770	10	57.5	60	35	52.5	20.3
					1000 Vdc							
BPMC505K102F2275	5	11	7.8	30	30	150	23	32	37	22	27.5	-
BPMC126K102L4375	12	9	13	30	20	240	17	42.5	44	24	37.5	10.2
BPMC156K102M4375	15	7.5	14	30	20	300	15	42.5	45	30	37.5	20.3
BPMC206K102P4525	20	10.5	11	35	15	300	12	57.5	45	30	52.5	20.3
BPMC306K102Q4525	30	6.5	15	35	15	450	10	57.5	50	35	52.5	20.3
BPMC406K102Q4525	40	6	16	35	15	600	10	57.5	50	35	52.5	20.3
					1100 Vdc							
BPMC225K112C2275	2.2	16.5	5	26	32	70	33	32	28	14	27.5	-
BPMC335K112D2275	3.3	11.5	6.5	26	32	105	29	32	28	18	27.5	-
BPMC505K112F2275	5	9.5	8.5	28	32	160	23	32	37	22	27.5	-
BPMC685K112H4375	6.8	13.5	9.5	30	24	163	21	42.5	33.5	22	37.5	10.2
BPMC106K112L2375	10	9	13	30	24	240	17	42.5	44	24	37.5	-
BPMC106K112L4375	10	8.5	153.5	30	24	240	17	42.5	44	24	37.5	10.2
BPMC126K112M2375	12	7.5	15	30	24	288	15	42.5	45	30	37.5	-
BPMC206K112P4525	20	8.5	11.5	35	16	320	12	57.5	45	30	52.5	20.3
BPMC306K112P4525	30	5	15	35	16	480	12	57.5	45	30	52.5	20.3
BPMC406K112Q4525	40	5.5	17	35	16	640	10	57.5	50	35	52.5	20.3
					1200 Vdc							
BPMC105K122B2275	1	32.5	4	25	34	34	38	32	24.5	15	27.5	-
BPMC225K122D2275	2.2	16	5.5	26	34	74	29	32	28	18	27.5	-
BPMC335K122F2275	3.3	13.5	7.5	28	34	112	23	32	37	22	27.5	-
BPMC505K122H2375	5	15.5	7.5	30	26	130	21	42.5	33.5	22	37.5	-
BPMC106K122M2375	10	8.5	11	30	26	260	15	42.5	45	30	37.5	-
BPMC106K122M4375	10	8	12	30	26	260	15	42.5	45	30	37.5	20.3
BPMC126K122P4525	12	12.5	9	35	18	216	12	57.5	45	30	52.5	20.3
BPMC156K122Q4525	15	11	10	35	18	270	10	57.5	50	35	52.5	20.3

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Expected Lifetime Predictions

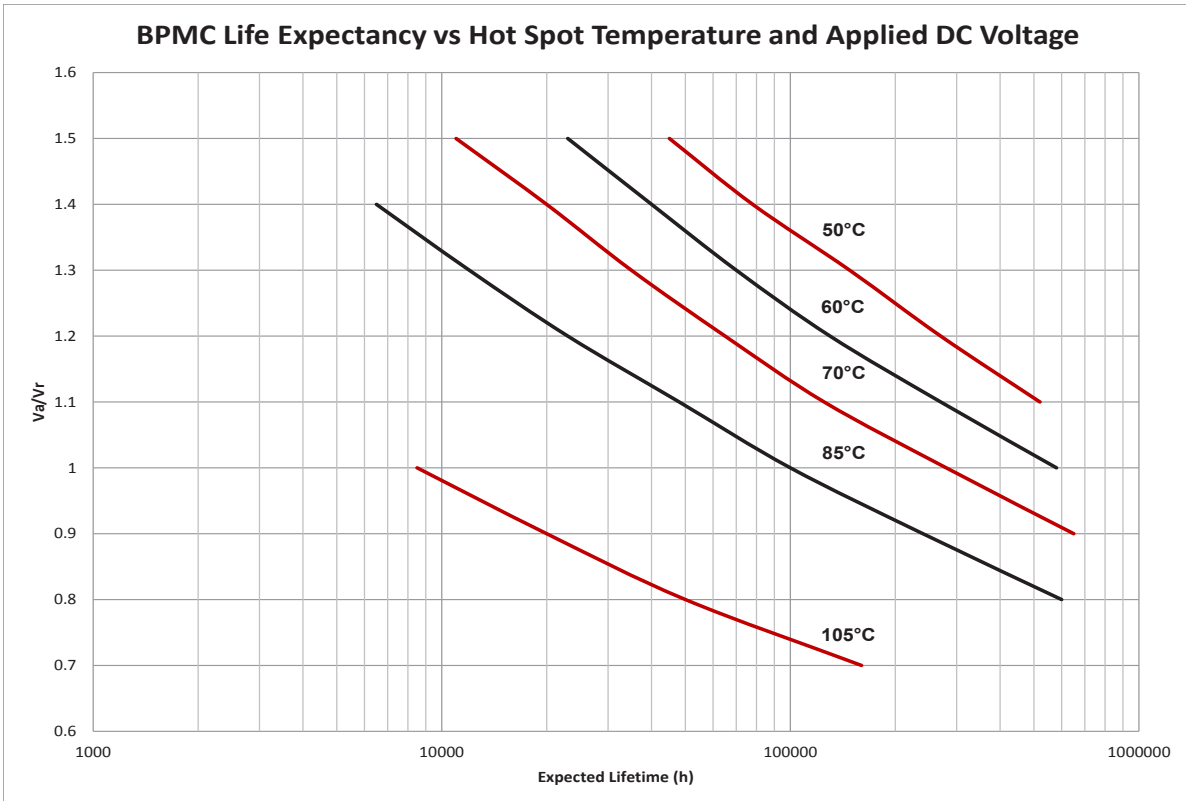
Capacitance: C (µF)
Equivalent Series Resistance: ESR (mΩ)
Frequency: f (kHz)
Ripple Current: I (A_{rms})
Ambient Temperature: T_a (°C)
Hot Spot Temperature: T_c (°C)
Thermal Resistance: Θ (°C/W)
Applied Voltage: V_a (V_{DC})
Rated Voltage: V_r (V_{DC})

Determine Expected Lifetime

Look up Expected Lifetime on the graph using V_a/V_r and $T_c = T_a + I^2 (ESR/1000) \Theta$

Design Life

100,000 hours at V_r and $T_c \leq +85$ °C



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