ELCON

Conductive Polymer Aluminum Solid Electrolytic Capacitors

MB

Chip type, Low ESR, Higher Capacitance Series

- Low ESR,Higher Capacitance, High ripple current.
- Load life of 2000 hours at 105℃.
- SMD type:Lead free reflow soldering condition at 260℃ peak correspondence.
- RoHS Compliance(2011/65/EU)

■ SPECIFICATIONS

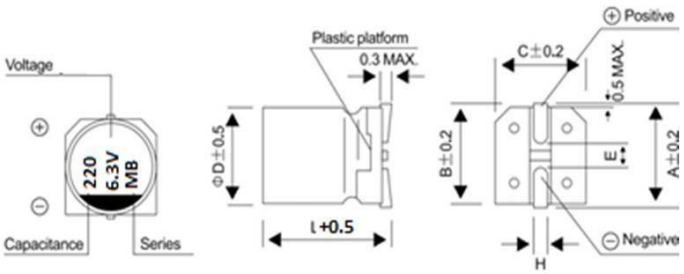
Items	Performance Characteristics		
Category Temperature Range	-55 ~ +105℃		
Rated Voltage Range	2.5 ~ 16V		
Rated Capacitance Range	120 ~ 1000μF		
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)		
Tangent of Loss Angle (tan δ)	Less than or equal to the specified value at 120Hz, 20℃		
ESR(※1)	Less than or equal to the specified value at 100KHz, 20℃		
Leakage Current(※2)	Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20℃		
Temperature Characteristics (Max. Impedance Ratio)	Z+105℃ / Z+20℃ ≤1.25 (100kHz) Z- 55℃ / Z+20℃ ≤1.25		
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 2000 hours at 105 ℃	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20 ℃ after the rated voltage is applied for 1000 hours at 60 ℃, 90% RH.	Capacitance change	Within ±20% of the initial capacitance value(※3)
		tan δ	150% or less than the initial specified value
		ESR(※1)	150% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Resistance to Soldering Heat	After soldering the capacitor shall meet the specifications listed at right. Pre-heating shall be done at 150 to 200 ℃ and for 60 to 180 sec. The duration for over +230 ℃ at capacitor surface shall not exceed 60 seconds. In case peak temperature is 250 ℃ or less, reflow soldering shall be two times maximum. In case peak temperature is 260 ℃ or less, reflow soldering shall be once. Measurement for solder temperature profiles shall be made at the capacitor top and the terminal.	Capacitance change	Within ±10% of the initial capacitance value(※3)
		tan δ	130% or less than the initial specified value
		ESR(※1)	130% or less than the initial specified value
		Leakage current(※2)	Less than or equal to the initial specified value
Marking	Red print on the case top		

※1 ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform

※2 Conditioning: If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105 ℃

※3 Initial value: The value before test of examination of resistance to soldering.

■ Dimensions

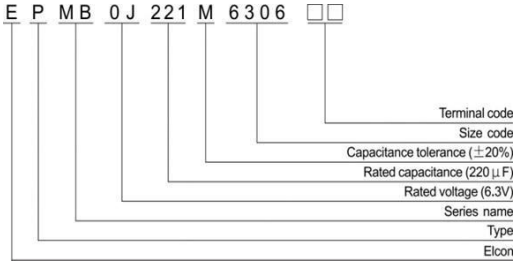


Φ x L(mm)

Size	5x5.8/8	6.3x5.8/6.5	6.3x7.7	6.3x9	8x6.7	8x7.7	10x12
ΦD	5.0	6.3	6.3	6.3	8.0	8.0	10.0
L	5.8/8	5.8/6.5	7.7	9	6.7	7.7	12
A	6.0	7.3	7.3	7.3	9.0	9.0	11.0
B	5.3	6.6	6.6	6.6	8.3	8.3	10.3
C	5.3	6.6	6.6	6.6	8.3	8.3	10.3
E	1.6	2.1	2.1	2.1	3.2	3.2	4.6
H	0.5-0.8	0.5-0.8	0.5-0.8	0.5-0.8	0.8-1.1	0.8-1.1	0.8-1.1

Type numbering system(Exp: 6.3V 220μF)

E P MB 0J 221 M 6306 □□



Voltage

V	2.5	4	6.3	10	16
Code	0E	0G	0J	1A	1C

MB Series

■ STANDARD RATINGS

Rated voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size ΦD x L(mm)	tan δ	Leakage Current (μA)	ESR(mΩ) (at 100kHz 20℃)	Rated Ripple (mArms)	Part Number
2.5 (0E)	2.8	330	5x5.8	0.12	165	10	3900	EPMB0E331M0558TR
		390	5x5.8	0.12	196	10	3900	EPMB0E391M0558TR
		390	6.3x5.8	0.12	196	10	3900	EPMB0E391M6358TR
		470	6.3x7.7	0.12	236	9	4200	EPMB0E471M6377TR
		560	6.3x5.8	0.12	280	10	3900	EPMB0E561M6358TR
		560	6.3x7.7	0.12	280	9	4200	EPMB0E561M6377TR
		560	6.3x7	0.12	280	10	4500	EPMB0E561M6307TR
		680	6.3x7	0.12	340	10	4500	EPMB0E681M6307TR
		1000	8x7.7	0.12	500	9	4500	EPMB0E102M0877TR
4 (0G)	4.6	330	6.3x5.8	0.12	132	10	3900	EPMB0G331M6358TR
		390	6.3x7.7	0.12	234	9	4200	EPMB0G391M6377TR
		470	6x6.7	0.12	282	10	4500	EPMB0G471M0667TR
		560	6x6.7	0.12	336	10	4500	EPMB0G561M0667TR
		680	8x7.7	0.12	408	9	4500	EPMB0G681M0877TR
		150	5x5.8	0.12	60	12	3500	EPMB0J151M0558TR
		220	5x5.8	0.12	88	12	3500	EPMB0J221M0558TR
		220	6.3x5.8	0.12	88	10	3900	EPMB0J221M6358TR
		270	6.3x7.7	0.12	108	9	4200	EPMB0J271M6377TR
		330	6.3x5.8	0.12	132	10	3900	EPMB0J331M6358TR
		330	6.3x7.7	0.12	132	9	4200	EPMB0J331M6377TR
		330	6.3x7	0.12	132	10	4500	EPMB0J331M6307TR
		390	6.3x7	0.12	156	10	4500	EPMB0J391M6307TR
		470	8x7.7	0.12	188	9	4500	EPMB0J471M0877TR
		560	8x7.7	0.12	224	9	4500	EPMB0J561M0877TR
6.3 (0J)	7.2	100	5x5.5	0.12	126	25	2200	EPMB0J101M0555TR
		220	6.3x4.2	0.12	278	18	3200	EPMB0J221M6342TR
		220	6.3x5	0.12	278	16	3400	EPMB0J221M6305TR
		220	6.3x6	0.12	278	16	3400	EPMB0J221M6306TR
		270	5x8	0.12	340	16	3000	EPMB0J271M0508TR
		270	5x9	0.12	340	16	3000	EPMB0J271M0509TR
		330	6.3x6.5	0.12	416	12	3950	EPMB0J331M6365TR
		470	6.3x7.7	0.12	592	12	3950	EPMB0J331M6365TR
		470	6.3x9	0.12	592	12	3450	EPMB0J471M6309TR
		560	6.3x6	0.12	706	10	4500	EPMB0J561M6309TR
		560	6.3x9	0.12	706	10	4500	EPMB0J561M6309TR
		1000	8x12	0.12	1260	10	5100	EPMB0J102M0812TR
		1500	10x10	0.12	1890	9	5600	EPMB0J152M1010TR
		2200	10x13	0.12	2772	10	6100	EPMB0J222M1013TR
10 (1A)	11.5	56	6.3x6	0.12	112	28	2550	EPMB1A680M6306TR
		100	6.3x5.5	0.12	200	25	2600	EPMB1A101M6355TR
		120	5x5.8	0.12	240	22	2600	EPMB1A121M0558TR
		150	6.3x6.5	0.12	300	20	2800	EPMB1A151M6365TR
		220	6.3x6.5	0.12	440	20	2900	EPMB1A221M6365TR
		220	6.3x7.7	0.12	440	20	2800	EPMB1A221M6377TR
		270	6.3x5.8	0.12	540	20	2800	EPMB1A271M6358TR
16 (1C)	18.4	100	6.3x6	0.12	160	24	2500	EPMB1C101M6306TR
		100	6.3x6.5	0.12	160	24	2500	EPMB1C101M6365TR
		100	6.3x8	0.12	160	22	2600	EPPB1C101M6308TR
		180	6.3x5.8	0.12	288	22	3300	EPMB1C181M6358TR
		220	6.3x7.7	0.12	352	22	3300	EPMB1C221M6377TR
		220	6.3x9	0.12	352	20	3500	EPMB1C221M6309TR
		270	8x6.7	0.12	432	22	3300	EPMB1C271M0867TR
		270	8x9	0.12	432	20	3800	EPMB1C271M0809TR
		330	8x7.7	0.12	525	21	3400	EPMB1C331M0877TR
		470	10x12	0.12	752	11	5200	EPMB1C471M1012TR
		1000	10x12	0.12	1600	10	5800	EPMB1C102M1012TR