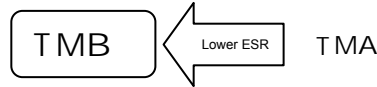


CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

**TMB Series CHIP TYPE, HIGHER CAPACITANCE**

Operating with wide temperature range -55~+105°C  
 Higher capacitance, ultra-low ESR, high ripple current  
 Load life of 2000 hours  
 RoHS & REACH compliant, Halogen-free



**SPECIFICATIONS**

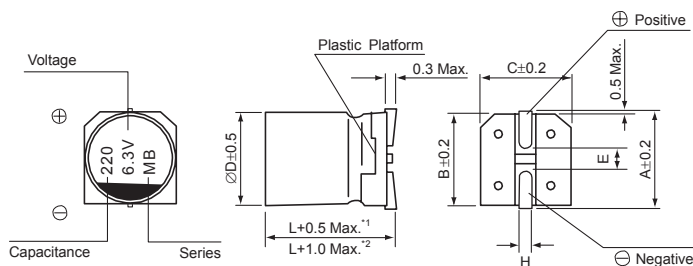
Items	Characteristics					
Operation Temperature Range	-55 ~ +105°C					
Voltage Range	2.5 ~ 16V					
Capacitance Range	100 ~ 1000µF					
Capacitance Tolerance	±20% at 120Hz, 20°C					
Leakage Current	≤Specified value (after 2 minutes application of rated voltage at 20°C).					
Dissipation Factor (tan δ)	≤Specified value at 120Hz, 20°C.					
ESR	≤Specified value at 100KHz, 20°C.					
Stability at Low Temperature	Measurement frequency : 100KHz					
	<table border="1"> <tr> <td>Impedance Ratio ZT/Z20 (max.)</td> <td>Z(+105°C)/Z(20°C)</td> <td>≤1.25</td> </tr> <tr> <td></td> <td>Z(-55°C)/Z(20°C)</td> <td>≤1.25</td> </tr> </table>	Impedance Ratio ZT/Z20 (max.)	Z(+105°C)/Z(20°C)	≤1.25		Z(-55°C)/Z(20°C)
Impedance Ratio ZT/Z20 (max.)	Z(+105°C)/Z(20°C)	≤1.25				
	Z(-55°C)/Z(20°C)	≤1.25				
Damp Heat (Steady State)	When the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90% RH, they meet the characteristics listed below.					
	Capacitance Change	Within ±20% of initial value				
	Dissipation Factor	150% or less of initial specified value				
	ESR	150% or less of initial specified value				
	Leakage Current	Initial specified value or less				
Endurance	After 2000 hours application of the rated voltage at 105°C, they meet the characteristics listed below.					
	Capacitance Change	Within ±20% of initial value				
	Dissipation Factor	150% or less of initial specified value				
	ESR	150% or less of initial specified value				
	Leakage Current	Initial specified value or less				
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below.					
	Capacitance Change	Within ±10% of initial value				
	Dissipation Factor	130% or less of initial specified value				
	ESR	130% or less of initial specified value				
	Leakage Current	Initial specified value or less				
Marking	Red print on the case top.					

(\*1) 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°C.

(\*2) Should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.

(\*3) The value before test of examination of resistance to soldering.

**DRAWING** (Unit: mm)



\*1. Applicable to Ø5-Ø8  
 \*2. Applicable to Ø10 and above

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

TMB Series

**DIMENSIONS** (Unit: mm)

∅D × L	5 × 5.5/5.8	5 × 8/9	6.3 × 5/6	6.3 × 5.8/6.5	6.3 × 7/7.7	6.3 × 9	8 × 6.7/7.7	10 × 12
A	6.0	6.0	7.3	7.3	7.3	7.3	9.0	11.0
B	5.3	5.3	6.6	6.6	6.6	6.6	8.3	10.3
C	5.3	5.3	6.6	6.6	6.6	6.6	8.3	10.3
E	1.6	1.6	2.1	2.1	2.1	2.1	3.2	4.6
L	5.5/5.8	8.0/9.0	5.0/6.0	5.8/6.5	7.0/7.7	9.0	6.7/7.7	12.0
H	0.5~0.8	0.5~0.8	0.5~0.8	0.5~0.8	0.5~0.8	0.5~0.8	0.8~1.1	0.8~1.1

**DIMENSIONS & STANDARD RATINGS**

WV (V)		2.5					4				
Cap. (μF)	Parameter	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
150	157						5 × 5.8	0.12	120	12	3500
220	227						5 × 5.8 (6.3 × 5.8)	0.12 (0.12)	176 (176)	12 (10)	3500 (3900)
270	277						6.3 × 7.7	0.12	216	9	4200
330	337	5 × 5.8	0.12	165	10	3900	6.3 × 7.7 (6.3 × 7)	0.12 (0.12)	264 (264)	9 (10)	4200 (4500)
390	397	5 × 5.8 (6.3 × 5.8)	0.12 (0.12)	195 (195)	10 (10)	3900 (3900)	6.3 × 7	0.12	312	10	4500
470	477	6.3 × 7.7	0.12	332.5	9	4200	8 × 7.7	0.12	376	9	4500
560	567	6.3 × 7.7 (6.3 × 7) (6.3 × 5.8)	0.12 (0.12) (0.12)	280 (280) (280)	9 (10) (10)	4200 (4500) (3900)	8 × 7.7	0.12	448	9	4500
680	687	6.3 × 7	0.12	340	10	4500					
1000	108	8 × 7.7	0.12	500	9	4500					

WV (V)		6.3					10				
Cap. (μF)	Parameter	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
100	107	5 × 5.5	0.12	126	25	2200	6.3 × 5.5	0.12	200	25	2600
120	127						5 × 5.8	0.12	240	22	2600
150	157						6.3 × 6.5	0.12	300	20	2800
220	227	6.3 × 5 (6.3 × 6)	0.12 (0.12)	277 (277)	16 (16)	3400 (3400)	6.3 × 6.5	0.12	440	20	2900
270	277	5 × 8 (5 × 9)	0.12 (0.12)	340 (340)	16 (16)	3000 (3000)	6.3 × 5.8	0.12	540	20	2800
330	337	6.3 × 6.5	0.12	416	12	3950					
470	477	6.3 × 7.7	0.12	592	12	3950					
560	567	6.3 × 9	0.12	706	10	4500					

WV (V)		16				
Cap. (μF)	Parameter	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
100	107	6.3 × 6 (6.3 × 6.5)	0.12 (0.12)	320 (320)	24 (24)	2500 (2500)
180	187	6.3 × 5.8	0.12	576	22	3300
220	227	6.3 × 7.7 (6.3 × 9)	0.12 (0.12)	704 (704)	22 (20)	3300 (3300)
270	277	8 × 6.7	0.12	864	22	3300
330	337	8 × 7.7	0.12	1050	21	3400
470	477	10 × 12	0.12	1504	11	5200