

## CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

### HMB Series

#### CHIP TYPE, HIGHER CAPACITANCE

Operating with wide temperature range -55~+105°C

Higher capacitance, ultra-low ESR, ripple current

Load life of 2000 hours

RoHS & REACH compliant, Halogen-free

HMB ← Lower ESR → HMA



### SPECIFICATIONS

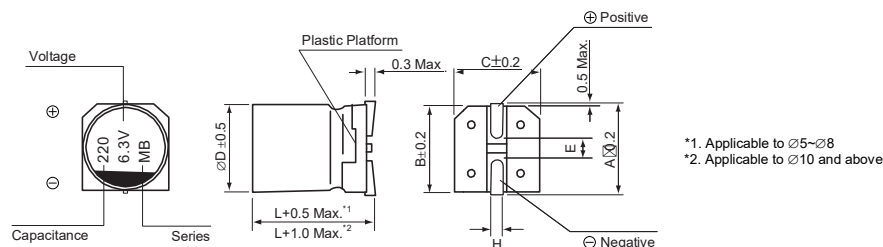
Items	Characteristics		
Operation Temperature Range	-55 ~ +105°C		
Voltage Range	2.5 ~ 16V		
Capacitance Range	100~ 1000μF		
Capacitance Tolerance	±20% at 120Hz, 20°C		
Leakage Current (*1)	≤ Specified value (after 2 minutes application of rated voltage at 20°C).		
Dissipation Factor (tan δ)	≤ Specified value at 120Hz, 20°C.		
ESR (*2)	≤ Specified value at 100KHz, 20°C.		
Stability at Low Temperature	Measurement frequency : 100KHz		
	Impedance Ratio ZT/Z20 (max.)	Z(+105°C)/Z(20°C) Z(-55°C)/Z(20°C)	≤1.25 ≤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 (*3)	
	Dissipation Factor	150% or less of initial specified value	
	ESR (*2)	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(*3)	
	Dissipation Factor	150% or less of initial specified value	
	ESR (*2)	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 (*3)	
	Dissipation Factor	130% or less of initial specified value	
	ESR (*2)	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)



Dimension table in next page.



**DIMENSIONS**

(Unit: mm)

∅D X L	5 x 5.5/5.8	5 x 8/9	6.3 x 5/6	6 x 5.8/6.5	6.3 x 7/7.7	6.3 x 9	8 x 6.7/7.7	10 x 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**

Cap. (μF)		WV (V)		2.5						4				
		Parameter	Case size ∅D X 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 X 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 x 5.8	0.12	120	12	3500		
220	227							5 x 5.8 (6.3 x 5.8)	0.12 (0.12)	176 (176)	12 (10)	3500 (3900)		
270	277							6.3 x 7.7	0.12	216	9	4200		
330	337	5 x 5.8	0.12	165	10	3900		6.3 x 7.7 (6.3 x 7)	0.12 (0.12)	264 (264)	9 (10)	4200 (4500)		
390	397	5 x 5.8 (6.3 x 5.8)	0.12 (0.12)	195 (195)	10 (10)	3900 (3900)		6.3 x 7	0.12	312	10	4500		
470	477	6.3 x 7.7	0.12	332.5	9	4200		8 x 7.7	0.12	376	9	4500		
560	567	6.3 x 7.7 (6.3 x 7) (6.3 x 5.8)	0.12 (0.12) (0.12)	280 (280) (280)	9 (10) (10)	4200 (4500) (3900)		8 x 7.7	0.12	448	9	4500		
680	687	6.3 x 7	0.12	340	10	4500								
1000	108	8 x 7.7	0.12	500	9	4500								

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

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

## ◆ How to order

<u>HMB</u>	<u>106</u>	<u>M</u>	<u>0006</u>	<u>0405</u>	<u>R</u>	<u>-</u>
↓	↓	↓	↓	↓	↓	↓
<u>Type</u>	<u>Capacitance code</u>	<u>Tolerance</u>	<u>Rated Voltage</u>	<u>Size Code</u>	<u>Package</u>	<u>Additional characters may be added for special requirements</u>
HMB	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF  107 = 100uF	M: +/-20%	Code 0006: 6.3VDC For DC Voltage 0004: 4VDC 0010: 10VDC 0016: 16VDC	Code 0405: Size 4x5.5mm Size for V-chip E-cap 0405: Size 4x5.5mm 0607: Size 6.3x7.7mm 1012: Size 10x12mm	R: Tape & Reel	

Note: Specification is subject to change without further notice. For more details and updates, please visit our website.