Hongda Capacitors
Email: sales@hongdacap.com.hk
Skype: Hongdacapacitors
Web: www.hongdacap.com.hk
Tel: +86 (0)769 82207248

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

HMA Series

CHIP TYPE, STANDARD

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

Low ESR, high ripple current

Load life of 2000 hours

RoHS & REACH compliant, Halogen-free

HMB ← Lower ESR — **HMA**

SPECIFICATIONS

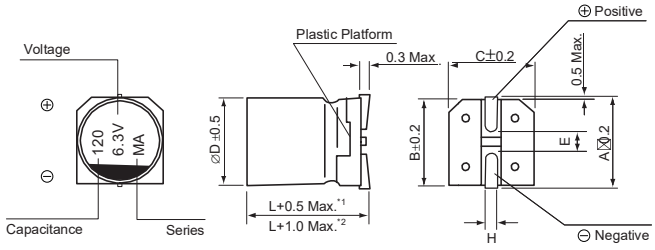
Items	Characteristics
Operation Temperature Range	-55 ~ +105°C
Voltage Range	2.5 ~ 25V
Capacitance Range	3.3 ~ 1500μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current (*1)	≤ Specified value (after 2 minutes application of rated voltage at 20°C).
Dissipation Factor (tanδ)	≤ Specified value at 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) ≤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 (*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)



*1. Applicable to ∅5~∅8
*2. Applicable to ∅10 and above

Dimension table in next page.

DIMENSIONS

(Unit: mm)

∅D X L	4 x 5.5	5 x 6	6.3 x 5.5/6	8 x 7	8 x 12	10 x 8/10	10 x 12.7
A	5.0	6.0	7.3	9.0	9.0	11.0	11.0
B	4.3	5.3	6.6	8.3	8.3	10.3	10.3
C	4.3	5.3	6.6	8.3	8.3	10.3	10.3
E	1.0	1.6	2.1	3.2	3.2	4.6	4.6
L	5.5	6.0	5.5/6.0	7.0	12.0	8.0/10.0	12.7
H	0.5~0.8	0.5~0.8	0.5~0.8	0.8~1.1	0.8~1.1	0.8~1.1	0.8~1.1

DIMENSIONS & STANDARD RATINGS

WV (V) / Parameter / Cap. (μF)		2.5					4				
		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
33	336						4 × 5.5	0.12	26.4	200	700
100	107	6.3 × 6	0.12	50	22	2600	6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	80 (80)	22 (22)	2600 (2600)
150	157						6.3 × 5.5 (5 × 6) (6.3 × 6)	0.12 (0.12) (0.12)	120 (300) (120)	22 (30) (22)	2800 (2000) (2800)
220	227	6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	110 (110)	20 (20)	2800 (2800)	8 × 7	0.12	176	21	3200
330	337						8 × 7	0.12	264	21	3400
470	477	8 × 7	0.12	235	20	3300	10 × 8	0.12	376	17	4200
560	567						8 × 12	0.12	448	13	4520
680	687						10 × 8	0.12	544	17	4400
820	827	10 × 8	0.12	410	17	4400	10 × 10	0.12	656	13	4800
1200	128						10 × 12.7	0.12	960	10	5500
1500	158	10 × 10 (10 × 12.7)	0.12 (0.12)	750 (750)	13 (12)	4700 (5440)					

WV (V) / Parameter / Cap. (μF)		6.3					10				
		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
4.7	475						4 × 5.5	0.12	9.4	240	670
6.8	685						4 × 5.5	0.12	13.6	240	670
10	106						4 × 5.5	0.12	20	220	700
15	156						4 × 5.5	0.12	30	200	700
22	226	4 × 5.5	0.12	27.72	200	700					
33	336						5 × 6	0.12	66	35	1500
47	476	5 × 6	0.12	59.22	35	1600	5 × 6 (6.3 × 6)	0.12 (0.12)	94 (94)	26 (26)	2600 (2600)
56	566						6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	112 (112)	25 (25)	2500 (2500)
82	826	6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	103 (103)	23 (23)	2600 (2600)					
100	107	6.3 × 5.5 (5 × 6) (6.3 × 6)	0.12 (0.12) (0.12)	126 (315) (126)	23 (25) (23)	2800 (2200) (2800)					
120	127	6.3 × 6	0.12	151	23	3000	8 × 7	0.12	240	23	3000
150	157	8 × 7	0.12	189	22	3200	8 × 7 (10 × 8)	0.12 (0.12)	300 (300)	23 (21)	3200 (3300)
220	227	8 × 7	0.12	277	22	3400					
270	277						8 × 12 (10 × 8)	0.12 (0.12)	540 (540)	13 (20)	4500 (3600)
330	337	10 × 8	0.12	416	18	4200	8 × 12 (10 × 8)	0.12 (0.12)	660 (660)	14 (20)	4000 (3700)
470	477	8 × 12 (10 × 8) (10 × 10)	0.12 (0.12) (0.12)	592 (592) (592)	12 (18) (16)	5300 (4300) (4600)	10 × 10 (10 × 12.7)	0.12 (0.12)	940 (940)	16 (12)	4600 (5300)
560	567						10 × 10 (10 × 12.7)	0.12 (0.12)	1120 (1120)	15 (13)	4800 (5230)
680	687	10 × 10 (10 x 12.7)	0.12 (0.12)	857 (857)	14 (10)	5000 (5500)					
820	827	10 x 12.7	0.12	1033	10	5800					

Hongda Capacitors
Email: sales@hongdacap.com.hk Web: www.hongdacap.com.hk
Skype: Hongdacapacitors Tel: +86 (0)769 82207248

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

HMA Series

DIMENSIONS & STANDARD RATINGS

WV (V) / Parameter		16					20				
Cap. (μF)		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
3.3	335	4 × 5.5	0.12	7.04	260	660					
10	106						4 × 5.5	0.12	40	120	900
22	226	5 × 6	0.12	70.4	45	1210	6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	88 (88)	50 (50)	1700 (1700)
33	336	6.3 × 6	0.12	106	31	2400					
39	396	6.3 × 5.5 (6.3 × 6)	0.12 (0.12)	125 (125)	31 (31)	2400 (2400)	8 × 7	0.12	156	45	2000
47	476						8 × 7	0.12	188	45	2000
56	566	8 × 7	0.12	179	30	2900	10 × 8	0.12	224	40	2400
68	686						10 × 8	0.12	272	40	2600
82	826	8 × 7	0.12	262	28	3200	10 × 8	0.12	328	40	2600
100	107	10 × 8	0.12	320	27	3300	8 × 12	0.12	400	22	3200
120	127						10 × 10	0.12	480	35	2800
150	157	10 × 8 (6.3 × 6.5)	0.12 (0.12)	480 (480)	25 (30)	3500 (2900)	10 × 12.7	0.12	600	20	4320
180	187	8 × 12 (10 × 8)	0.12 (0.12)	576 (576)	16 (25)	4400 (3600)					
220	227	10 × 10 (10 × 12.7)	0.12 (0.12)	704 (704)	20 (14)	3900 (5050)					
330	337	10 × 12.7	0.12	1056	14	5000					

WV (V) / Parameter		25				
Cap. (μF)		Case size ∅D X L(mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C 100KHz	(mA rms) 105°C 100KHz
6.8	685	6.3 × 6	0.12	34	80	1200
10	106	8 × 7	0.12	50	60	1600
22	226	10 × 8	0.12	110	50	2200
33	336	8 × 12	0.12	165	30	2800
47	476	8 × 12 (10 × 10)	0.12 (0.12)	235 (235)	30 (45)	3000 (2400)
56	566	10 × 12.7	0.12	280	28	3800
100	107	8 × 7	0.12	500	25	3000

◆ How to order

HMA	106	M	0006	0405	R	-
↓	↓	↓	↓	↓	↓	↓
Type	Capacitance code	Tolerance	Rated Voltage	Size Code	Package	Additional characters may be added for special requirements
HMA	pF Code: 1st two digits represent significant figures 3rd digit represents mulitplier (number of zeros to follow) 106 = 10uF 107 = 100uF	M: +/-20%	Code 0006: 6.3VDC For DC Voltage 0004: 4VDC 0020: 20VDC 0025: 25VDC	Code 0405: Size 4x5.5mm Size for V-chip E-cap 0405: Size 4x5.5mm 1010: Size 10x10mm 1012: Size 10x12.7mm	R: Tape & Reel	