CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

HHMV Series

CHIP TYPE, 105°C STANDARD

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

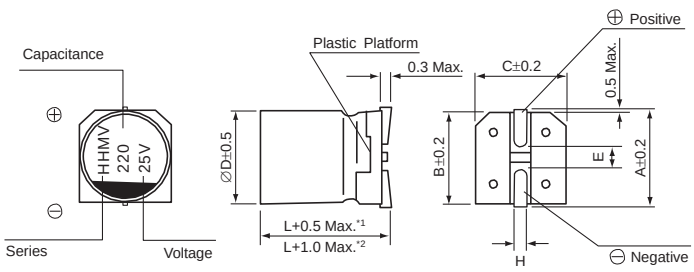
High reliability & high voltage are realized by hybrid electrolyte Endurance 10000 hours

RoHS & REACH compliant, Halogen-free

SPECIFICATIONS

Items	Characteristics
Operation Temperature Range	-55 ~ +105°C
Voltage Range	25 ~ 80V
Capacitance Range	10 ~ 330μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	Leakage current ≤0.01CV (after 2 minutes application of rated voltage at 20°C) C: Nominal capacitance (μF) , V: Rated voltage (V)
Dissipation Factor (tan δ)	≤Specified value at 120Hz, 20°C.
ESR	≤Specified value at 100KHz, 20°C.
Stability at Low Temperature	Measurement frequency : 100KHz Impedance Ratio ZT/Z20 (max.): Z(-25°C)/Z(+20°C) ≤2.0; Z(-55°C)/Z(+20°C) ≤2.5
Bias Humidity Test	When the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C, 85% RH, they meet the characteristics listed below. Capacitance Change: Within ±30% of initial value Dissipation Factor: 200% or less of initial specified value ESR: 200% or less of initial specified value Leakage Current: Initial specified value or less Appearance: No significant damage
Endurance	When the capacitors are restored to 20°C after 10000 hours application of the rated voltage at 105°C, they meet the characteristics listed below. Capacitance Change: Within ±30% of initial value Dissipation Factor: 200% or less of initial specified value ESR: 200% or less of initial specified value Leakage Current: Initial specified value or less
Shelf Life	When the capacitors are restored to 20°C after leaving under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.
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: Initial specified value or less Leakage Current: Initial specified value or less
Marking	Black print on the case top.

DRAWING (Unit: mm)



*1. Applicable to ∅6.3 and ∅8
*2. Applicable to ∅10 and above

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

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DIMENSIONS (Unit: mm)

ØD x L	6.3 x 6	6.3 x 7.7	8 x 10	10 x 10.5
A	7.3	7.3	9.0	11.0
B	6.6	6.6	8.3	10.3
C	6.6	6.6	8.3	10.3
E	1.9	1.9	3.1	4.7
L	6.0	7.7	10.0	10.5
H	0.5~0.8	0.5~0.8	0.8~1.1	0.8~1.1

DIMENSIONS & STANDARD RATINGS

WV (V) / Parameter / Cap. (μF)		25					35				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
27	270						6.3 × 6	0.12	9.45	60	1250
33	330						6.3 × 6	0.12	11.55	60	1250
47	470	6.3 × 6	0.14	11.75	48	1350	6.3 × 6	0.12	16.45	60	1250
56	560	6.3 × 6	0.14	14	48	1350					
68	680	6.3 × 7.7	0.14	17	29	2100	6.3 × 7.7	0.12	23.8	35	2000
100	101	6.3 × 7.7	0.14	25	29	2100	8 × 10	0.12	35	26	2400
150	151	8 × 10	0.14	37.5	26	2400	8 × 10	0.12	52.5	26	2400
220	221	8 × 10	0.14	55	26	2400	10 × 10.5	0.12	77	20	2500
270	270						10 × 10.5	0.12	94.5	20	2500
330	331	10 × 10.5	0.14	82.5	20	2500					

WV (V) / Parameter / Cap. (μF)		50					63				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz	Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
10	100	6.3 × 6	0.10	5	12	720	6.3 × 6	0.08	6.3	120	1000
22	220	6.3 × 6	0.10	11	75	1100	6.3 × 7.7	0.08	13.86	75	1550
33	330	6.3 × 7.7	0.10	16.5	40	1600	8 × 10	0.08	20.79	38	1750
47	470	8 × 10.5	0.10	23.5	28	1850	8 × 10	0.08	29.61	38	1750
56	560						10 × 10.5	0.08	35.28	29	1820
68	680	8 × 10	0.10	34	28	1850	10 × 10.5	0.08	42.84	29	1820
82	820						10 × 10.5	0.08	51.66	29	1820
100	101	10 × 10.5	0.10	50	26	2000					

WV (V) / Parameter / Cap. (μF)		80				
		Case size ØD×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20°C, 100KHz	Ripple current (mA rms) 105°C, 100KHz
22	220	8 × 10	0.08	17.6	43	1500
33	330	10 × 10.5	0.08	26.4	35	1700

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency	120Hz ≤ f ≤ 1KHz	1KHz ≤ f ≤ 10KHz	10KHz ≤ f ≤ 100KHz	100KHz ≤ f ≤ 300KHz
Coefficient	0.10	0.40	0.70	1.00

◆ How to order

HHMV	106	M	0050	0607	R	-
↓	↓	↓	↓	↓	↓	↓
Type	Capacitance code	Tolerance	Rated Voltage	Size Code	Package	Additional characters may be added for special requirements
HHMV	pF Code: 1st two digits represent significant figures 3rd digit represents mulitplier (number of zeros to follow) 106= 10uF 476= 47uF 107= 100uF 127= 120uF	M: +/-20%	Code 0035: 35VDC For DC Voltage 0006: 6.3VDC 0010: 10VDC 0035: 35VDC 0050: 050VDC 0450: 450VDC	Code 0607: Size 6.3x7.7mm Size for V-chip E-cap 0606: Size 6.3x6.0mm 0607: Size 6.3x7.7mm 0810: Size 08x10.5mm 1010: Size 10x10.5mm	R: Tape & Reel	