

Data Sheet

Customer : _____

Product : Conductive Polymer Hybrid Aluminum Electrolytic Capacitors
SMD Type, Long Life, 105°C 10,000Hours – AHMV Series
AEC-Q200 Version Available

Size : 6.3x6mm ~ 10x10.5mm

Issued Date : 01-Sep.-2025

Edition : Ver.1

Record of change

Date	Ver.	Description	Page

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01-Sep.-2025	01-Sep.-2025	01-Sep.-2025	
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CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

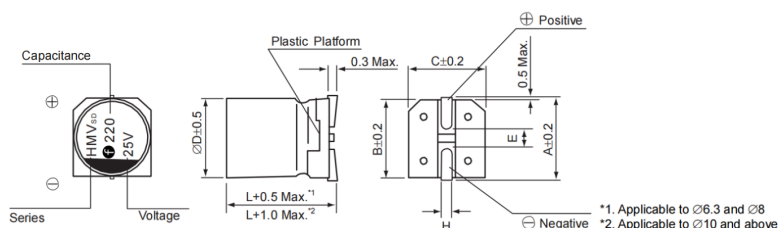
SMD Type, 105°C, Long Life

- High reliability and high voltage realized by hybrid electrolyte
- Endurance: 10,000 hours at 105°C
- Rated Voltage : 25V ~ 80V
- Rated capacitance : 10 ~ 330 μ F
- For high temperature & reliability applications.
- AEC-Q200 Compliant, for automotive equipment.

SPECIFICATIONS

Item	Performance Characteristics																
Operating Temperature range	-55 + 105℃																
Rated Voltage Range	25V ~ 80V																
Capacitance Tolerance	± 20% (at 120 Hz/ 20℃)																
Leakage Current	I ≤ 0.01 CV or less (2 minutes , 20℃) Not greater than the formula above after 2 minutes voltage applied. I : Leakage current (μA) C : Capacitance (μF) V : Voltage(VDC)																
Dissipation Factor (tan δ)	Rated voltage(V)	25	35	50	63	80	(20℃ · 120 Hz)										
	tan δ (Max.)	0.14	0.12	0.10	0.08	0.08											
Temperature Characteristics (Impedance ratio at 100 KHz)	Z (-25℃)/ Z (+20℃) < 2.0 Z (-55℃)/ Z (+20℃) < 2.5																
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 10,000 hours at 105℃. <table><tr><td>Capacitance change</td><td>≤ ± 30% of the initial value</td></tr><tr><td>D. F. (Tan δ)</td><td>≤ 200% of initial specified value</td></tr><tr><td>ESR</td><td>≤ 200% of initial specified value</td></tr><tr><td>Leakage current</td><td>Initial specified value or less</td></tr></table>							Capacitance change	≤ ± 30% of the initial value	D. F. (Tan δ)	≤ 200% of initial specified value	ESR	≤ 200% of initial specified value	Leakage current	Initial specified value or less		
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Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to item 4.1 of JIS C 5101-4. <table><tr><td>Capacitance change</td><td>≤ ± 30% of the initial value</td></tr><tr><td>D. F. (Tan δ)</td><td>≤ 200% of initial specified value</td></tr><tr><td>ESR</td><td>≤ 200% of initial specified value</td></tr><tr><td>Leakage current</td><td>Initial specified value or less</td></tr></table>							Capacitance change	≤ ± 30% of the initial value	D. F. (Tan δ)	≤ 200% of initial specified value	ESR	≤ 200% of initial specified value	Leakage current	Initial specified value or less		
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Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them to the DC rated voltage at 85℃, 85% RH for 2,000 hours. <table><tr><td>Capacitance change</td><td>≤ ± 30% of the initial value</td></tr><tr><td>D. F. (Tan δ)</td><td>≤ 200% of initial specified value</td></tr><tr><td>ESR</td><td>≤ 200% of initial specified value</td></tr><tr><td>Leakage current</td><td>Initial specified value or less</td></tr><tr><td>Appearance</td><td>No significant damage</td></tr></table>							Capacitance change	≤ ± 30% of the initial value	D. F. (Tan δ)	≤ 200% of initial specified value	ESR	≤ 200% of initial specified value	Leakage current	Initial specified value or less	Appearance	No significant damage
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Leakage current	Initial specified value or less																
Appearance	No significant damage																
Resistance to Soldering heat	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the soldering. <table><tr><td>Capacitance change</td><td>≤ ± 10% of the initial value</td></tr><tr><td>D. F. (Tan δ)</td><td>≤ the initial specified value</td></tr><tr><td>Leakage current</td><td>≤ the initial specified value</td></tr></table>							Capacitance change	≤ ± 10% of the initial value	D. F. (Tan δ)	≤ the initial specified value	Leakage current	≤ the initial specified value				
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Dimension



ϕ D	L	A	B	C	H	E
6.3	6.0	6.6	6.6	7.2	0.5~0.8	1.9
6.3	7.7	6.6	6.6	7.2	0.5~0.8	1.9
8	10.0	8.3	8.3	9	0.7~1.1	3.1
10	10.5	10.3	10.3	11	0.7~1.1	4.5

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

■ **Part Numbering** (example: 220 μ F 25V 8x10mm)

A H M V	<u>2 2 1</u>	<u>M</u>	<u>1 E</u>	<u>C</u>	<u>R</u>	<u>D</u>	<u>1 0 0</u>	<u>S</u>
SERIES	CAPACITANCE	TOL.	W.V.	TYPE	LEAD	DIA.	LENGTH	PRINTING COLOR

■ Standard Products Table

Rated voltage (V.DC)	Rated Capacitance (μF)	Case Size D x L (mm)	tan δ	ESR (mΩ max. 20°C/100 KHz)	Rated ripple current (mA rms/105°C,100KHz)
25 (1E)	47	6.3 x 6	0.14	48	1,350
	56	6.3 x 6	0.14	48	1,350
	68	6.3 x 7.7	0.14	29	2,100
	100	6.3 x 7.7	0.14	29	2,100
	150	8 x 10	0.14	26	2,400
	220	8 x 10	0.14	26	2,400
	330	10 x 10.5	0.14	20	2,500
35 (1V)	27	6.3 x 6	0.12	60	1,250
	33	6.3 x 6	0.12	60	1,250
	47	6.3 x 6	0.12	60	1,250
	68	6.3 x 7.7	0.12	35	2,000
	100	8 x 10	0.12	26	2,400
	150	8 x 10	0.12	26	2,400
	220	10 x 10.5	0.12	20	2,500
	270	10 x 10.5	0.12	20	2,500
50 (1H)	10	6.3 x 6	0.10	12	720
	22	6.3 x 6	0.10	75	1,100
	33	6.3 x 7.7	0.10	40	1,600
	47	8 x 10	0.10	28	1,850
	68	8 x 10	0.10	28	1,850
	100	10 x 10.5	0.10	26	2,000
63 (1J)	10	6.3 x 6	0.08	120	1,000
	22	6.3 x 7.7	0.08	75	1,550
	33	8 x 10	0.08	38	1,750
	47	8 x 10	0.08	38	1,750
	56	10 x 10.5	0.08	29	1,820
	68	10 x 10.5	0.08	29	1,820
	82	10 x 10.5	0.08	29	1,820
80 (1K)	22	8 x 10	0.08	43	1,500
	33	10 x 10.5	0.08	35	1,700

■ **Frequency coefficient of allowable ripple current**

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