

Data Sheet

Customer : _____

Product : Conductive Polymer Hybrid Aluminum Electrolytic Capacitors
SMD Type, High Temperature, 135°C 4,000Hours – AHMG Series
AEC-Q200 Version Available

Size : 8x10mm ~ 10x16.5mm

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

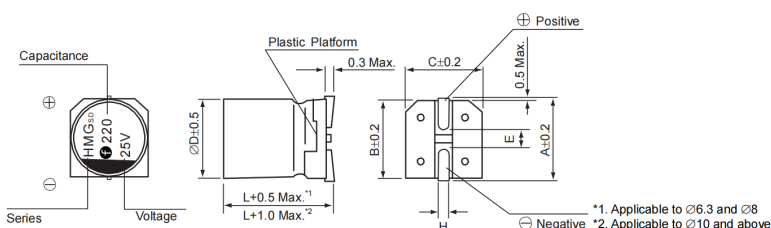
SMD Type, 135°C High Temperature

- High reliability and high voltage realized by hybrid electrolyte
- Endurance: 4,000 hours at 135°C
- Rated Voltage : 25V ~ 63V
- Rated capacitance : 33 ~ 560 μ F
- For high temperature & reliability applications.
- AEC-Q200 Compliant, for automotive equipment.

SPECIFICATIONS

Item	Performance Characteristics					
Operating Temperature range	-55 + 135℃					
Rated Voltage Range	25V ~ 63V					
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	(20℃ · 120 Hz)
	tan δ (Max.)	0.14	0.12	0.10	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 4,000 hours at 135℃.					
	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			
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 135℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to item 4.1 of JIS C 5101-4.					
	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			
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.					
	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			
Resistance to Soldering heat	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the soldering.					
	Capacitance change		≤ ± 10% of the initial value			
	D. F. (Tan δ)		≤ the initial specified value			
	Leakage current		≤ the initial specified value			

Dimension



ϕD	L	A	B	C	H	E
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
10	12.8	10.3	10.3	11	0.7~1.1	4.5
10	16.5	10.3	10.3	11	0.7~1.1	4.5

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

■ Part Numbering (example: 120 μ F 50V 10x10.5mm)

A H M G	1 2 1	M	1 H	C	R	E	1 0 5	S
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/100KHz)	
					≤ 125°C	≤ 135°C
25 (1E)	150	8 x 10	0.14	27	2,900	1,600
	220	8 x 10	0.14	27	2,900	1,600
	270	8 x 10	0.14	23	3,300	2,000
	330	10 x 10.5	0.14	20	3,400	2,100
	470	10 x 12.8	0.14	16	3,500	2,300
	560	10 x 16.5	0.14	11	4,000	2,900
35 (1V)	100	8 x 10	0.12	27	2,900	1,600
	150	8 x 10	0.12	27	2,900	1,600
	270	10 x 10.5	0.12	20	3,300	2,000
	330	10 x 12.8	0.12	16	3,500	2,300
	470	10 x 16.5	0.12	11	4,000	2,900
50 (1H)	47	8 x 10	0.10	30	2,200	1,250
	68	8 x 10	0.10	30	2,200	1,250
	120	10 x 10.5	0.10	28	2,600	1,600
	150	10 x 12.8	0.10	18	3,200	2,000
	220	10 x 16.5	0.10	13	3,700	2,600
63 (1J)	33	8 x 10	0.08	40	1,900	1,100
	47	8 x 10	0.08	40	1,900	1,100
	56	10 x 10	0.08	30	2,300	1,400
	68	10 x 10	0.08	30	2,300	1,400
	82	10 x 10.5	0.08	30	2,300	1,400
	100	10 x 12.8	0.08	20	3,000	1,900
	150	10 x 16.5	0.08	15	3,500	2,400

■ **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	0.20	0.40	0.70	1.00