

# Data Sheet

Customer : \_\_\_\_\_

Product : Conductive Polymer Hybrid Aluminum Electrolytic Capacitors  
SMD Type, High Ripple Current, 125°C 4,000Hours – AHME Series  
AEC-Q200 Version Available

Size : 6.3x6mm ~ 10x12.8mm

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

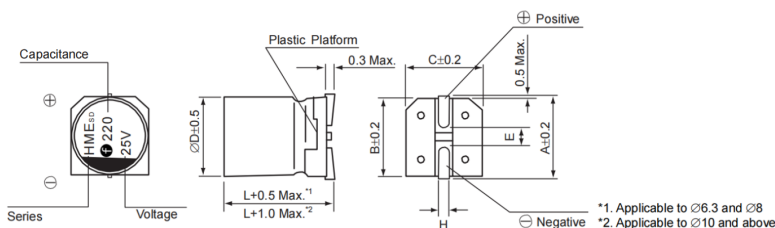
### SMD Type, 125°C High Ripple Current

- High reliability and high voltage realized by hybrid electrolyte
- Endurance: 4,000 hours at 125°C
- Rated Voltage : 25V ~ 63V
- Rated capacitance : 47 ~ 470  $\mu$ F
- For high temperature & reliability applications.
- AEC-Q200 Compliant, for automotive equipment.

## SPECIFICATIONS

| Item                                                        | Performance Characteristics                                                                                                                                                                                                                                                             |      |                                   |      |      |                 |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------|------|------|-----------------|
| Operating Temperature range                                 | -55 + 125°C                                                                                                                                                                                                                                                                             |      |                                   |      |      |                 |
| Rated Voltage Range                                         | 25V ~ 63V                                                                                                                                                                                                                                                                               |      |                                   |      |      |                 |
| Capacitance Tolerance                                       | ± 20% (at 120 Hz/ 20°C)                                                                                                                                                                                                                                                                 |      |                                   |      |      |                 |
| Leakage Current                                             | I ≤ 0.01 CV or less ( 2 minutes , 20°C)<br>Not greater than the formula above after 2 minutes voltage applied.<br>I : Leakage current (μA) C : Capacitance (μF) V : Voltage(VDC)                                                                                                        |      |                                   |      |      |                 |
| Dissipation Factor (tan δ)                                  | Rated voltage(V)                                                                                                                                                                                                                                                                        | 25   | 35                                | 50   | 63   | (20°C · 120 Hz) |
|                                                             | tan δ (Max.)                                                                                                                                                                                                                                                                            | 0.14 | 0.12                              | 0.10 | 0.08 |                 |
| Temperature Characteristics<br>(Impedance ratio at 100 KHz) | Z (-25°C)/ Z (+20°C) < 2.0<br>Z (-55°C)/ Z (+20°C) < 2.5                                                                                                                                                                                                                                |      |                                   |      |      |                 |
| Endurance                                                   | The following specifications shall be satisfied when the capacitors are restored to 20°C 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 125°C.                                         |      |                                   |      |      |                 |
|                                                             | 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°C after exposing them for 1,000 hours at 125°C 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°C after subjecting them to the DC rated voltage at 85°C, 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°C 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



| $\phi D$ | 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 |
| 10       | 12.8 | 10.3 | 10.3 | 11  | 0.7~1.1 | 4.5 |

# CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

■ **Part Numbering** (example: 150  $\mu$ F 35V 8x10mm)

| <u>A H M E</u> | <u>1 5 1</u> | <u>M</u> | <u>1 V</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<br>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/125°C,100KHz) |
|----------------------|------------------------|----------------------|-------|----------------------------|--------------------------------------------|
| 25 (1E)              | 82                     | 6.3 x 6              | 0.14  | 50                         | 1,300                                      |
|                      | 150                    | 6.3 x 7.7            | 0.14  | 30                         | 1,800                                      |
|                      | 220                    | 8 x 10               | 0.14  | 22                         | 2,900                                      |
|                      | 330                    | 10 x 10.5            | 0.14  | 16                         | 3,500                                      |
|                      | 470                    | 10 x 12.8            | 0.14  | 14                         | 4,000                                      |
| 35 (1V)              | 56                     | 6.3 x 6              | 0.12  | 60                         | 1,200                                      |
|                      | 100                    | 6.3 x 7.7            | 0.12  | 35                         | 1,700                                      |
|                      | 150                    | 8 x 10               | 0.12  | 22                         | 2,900                                      |
|                      | 220                    | 10 x 10.5            | 0.12  | 20                         | 3,400                                      |
|                      | 270                    | 10 x 12.8            | 0.12  | 16                         | 3,800                                      |
| 50 (1H)              | 68                     | 8 x 10               | 0.10  | 25                         | 2,700                                      |
|                      | 120                    | 10 x 10.5            | 0.10  | 23                         | 2,900                                      |
|                      | 150                    | 10 x 12.8            | 0.12  | 17                         | 3,500                                      |
| 63 (1J)              | 47                     | 8 x 10               | 0.08  | 32                         | 2,400                                      |
|                      | 82                     | 10 x 10.5            | 0.08  | 25                         | 2,800                                      |
|                      | 100                    | 10 x 12.8            | 0.08  | 19                         | 3,200                                      |

■ **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                  |