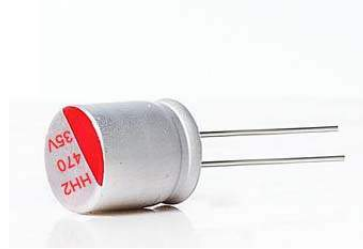


CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

HH2 Series

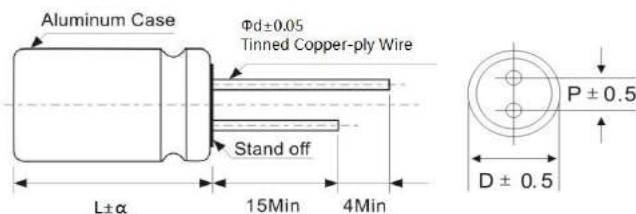
- Low ESR, high ripple current, high voltage
- Load life of 2000 hours at 105°C
- Radial, Voltage Range 35V~100VDC
- RoHS Compliant



◆ Specifications

| Items | Characteristics | | |
|---|--|-------------------------------|-----------------|
| Category | -55 ~ +105°C | | |
| Temperature Range | | | |
| Rated Voltage Range | 35 ~ 100V | | |
| Capacitance tolerance | ±20%(M) (at 20°C,120Hz) | | |
| Leakage Current | Less than or equal to the specified value. After 2 minutes application of rated Voltage at 20°C, I≤0.1CV or 299µA | | |
| Dissipation Factor (tanδ) | Rated voltage (V) | 35~100 | (at 20°C,120Hz) |
| | tanδ (Max.) | 0.12 | |
| Low Temperature Characteristics (Max.Impedance Ratio) | Z(-25°C)/Z(+20°C) | ≦ 1.25 | (100KHz) |
| | Z(-55°C)/Z(+20°C) | ≦ 1.25 | |
| Endurance | The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 2000 hours at 105°C. | | |
| | Appearance | No significant damage | |
| | Capacitance change | ≦ ±20% of the initial value | |
| | D.F.(tanδ) | ≦ 150% of the specified value | |
| | ESR | ≦ 150% of the specified value | |
| | Leakage current | ≦ The specified value | |
| Damp Heat (Steady State) | The specifications listed below shall be satisfied when the capacitors are restored to 20°C after application of rated voltage for 1000 hours at 60°C,90%~ 95% RH. | | |
| | Appearance | No significant damage | |
| | Capacitance change | ≦ ±20% of the initial value | |
| | D.F.(tanδ) | ≦ 150% of the specified value | |
| | ESR | ≦ 150% of the specified value | |
| | Leakage current | ≦ The specified value | |
| (Surge Voltage) | Surge Voltage=Rated voltage × 1.15(V) | | |
| | The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through a protective resistor (Rc=1kΩ) and discharge for 5 minutes 30 seconds | | |
| | Appearance | No significant damage | |
| | Capacitance change | ≦ ±20% of the initial value | |
| | D.F.(tanδ) | ≦ 150% of the specified value | |
| | ESR | ≦ 150% of the specified value | |
| Leakage current | ≦ The specified value | | |

◆ Dimensions (mm)



| | | | | |
|----|-----|-----|-----|-----|
| ΦD | 5 | 6.3 | 8 | 10 |
| P | 2.5 | 2.5 | 3.5 | 5.0 |
| Φd | 0.5 | 0.6 | 0.6 | 0.6 |

| | |
|---|------------------|
| α | (L < 16)1.0 |
| | (16 ≦ L < 22)1.5 |
| | (L ≧ 22)2.0 |



HH2 Series

◆ Rated Ripple Current Coefficient

| Frequency(Hz) | 120Hz \leq f < 1kHz | 1kHz \leq f < 10kHz | 10kHz \leq f < 100kHz | 100kHz \leq f < 500kHz |
|---------------|-----------------------|-----------------------|-------------------------|--------------------------|
| Coefficient | 0.05 | 0.30 | 0.70 | 1.00 |

◆ Standard Ratings

| Rated voltage (V) | Rated capacitance (uF) | Case size Φ D×L(mm) | ESR(m Ω) at 20°C, 100 KHz | Leakage Current (μ A) | Rated ripple current (mArms/105°C/100kHz) |
|-------------------|------------------------|--------------------------|-----------------------------------|----------------------------|---|
| 35 | 10 | 5*8 | 120 | 299 | 1100 |
| | 22 | 6.3*8 | 100 | 299 | 1350 |
| | 33 | 5*8 | 120 | 299 | 1100 |
| | 39 | 6.3*8 | 90 | 299 | 1350 |
| | 39 | 8*9 | 60 | 299 | 1800 |
| | 47 | 5*7 | 80 | 299 | 1350 |
| | 47 | 6.3*8 | 60 | 299 | 1800 |
| | 56 | 6.3*8 | 80 | 299 | 1350 |
| | 56 | 8*9 | 60 | 299 | 1800 |
| | 68 | 6.3*8 | 70 | 299 | 1500 |
| | 68 | 8*9 | 50 | 299 | 2000 |
| | 82 | 6.3*11 | 60 | 299 | 1800 |
| | 82 | 8*9 | 40 | 299 | 2000 |
| | 100 | 5*11 | 45 | 350 | 1800 |
| | 100 | 6.3*8 | 40 | 350 | 2000 |
| | 150 | 6.3*12 | 35 | 525 | 2500 |
| | 220 | 8*9 | 35 | 770 | 2350 |
| | 220 | 8*12 | 35 | 770 | 2500 |
| | 220 | 10*12.5 | 30 | 770 | 2750 |
| | 330 | 10*12.5 | 30 | 1155 | 2900 |
| 470 | 10*13 | 30 | 1645 | 2900 | |
| 50 | 10 | 5*8 | 120 | 299 | 550 |
| | 15 | 6.3*8 | 100 | 299 | 800 |
| | 22 | 6.3*8 | 100 | 299 | 850 |
| | 33 | 8*9 | 50 | 299 | 1300 |
| | 33 | 8*12 | 40 | 299 | 1500 |
| | 39 | 8*9 | 50 | 299 | 1300 |
| | 39 | 8*12 | 40 | 299 | 1500 |
| | 47 | 8*12 | 40 | 299 | 1500 |
| | 56 | 8*12 | 40 | 299 | 1500 |
| | 82 | 10*12.5 | 35 | 410 | 2100 |
| | 100 | 10*12.5 | 35 | 500 | 2100 |
| | 220 | 10*12.5 | 35 | 1100 | 2500 |

HH2 Series

◆ Standard Ratings

| Rated voltage (V) | Rated capacitance (uF) | Case size ΦD×L(mm) | ESR(mΩ) at 20°C, 100 KHz | Leakage Current (μA) | Rated ripple current (mArms/105°C/100kHz) |
|-------------------|------------------------|--------------------|--------------------------|----------------------|---|
| 63 | 10 | 5*8 | 120 | 299 | 500 |
| | 15 | 6.3*8 | 100 | 299 | 750 |
| | 22 | 6.3*8 | 100 | 299 | 750 |
| | 33 | 8*9 | 55 | 299 | 1100 |
| | 39 | 8*9 | 55 | 299 | 1100 |
| | 47 | 8*12 | 45 | 299 | 1300 |
| | 56 | 8*12 | 45 | 353 | 1300 |
| | 82 | 10*12.5 | 38 | 517 | 1800 |
| | 100 | 10*12.5 | 38 | 630 | 1800 |
| 80 | 10 | 6.3*8 | 120 | 299 | 550 |
| | 15 | 6.3*8 | 120 | 299 | 550 |
| | 22 | 8*9 | 80 | 299 | 1100 |
| | 22 | 8*12 | 60 | 299 | 1300 |
| | 33 | 10*12.5 | 45 | 299 | 1700 |
| | 39 | 10*12.5 | 45 | 312 | 1700 |
| | 47 | 10*12.5 | 45 | 376 | 1800 |
| | 56 | 10*12.5 | 45 | 448 | 1800 |
| 100 | 10 | 8*9 | 90 | 299 | 850 |
| | 15 | 8*12 | 70 | 299 | 1190 |
| | 22 | 10*12.5 | 60 | 299 | 1550 |
| | 33 | 10*12.5 | 60 | 330 | 1550 |

◆ How to order

| | | | | | | | |
|-------------|---|------------------|---|----------------|--|-------------|--|
| <u>HH2</u> | <u>106</u> | <u>M</u> | <u>035</u> | <u>B</u> | <u>2</u> | <u>R</u> | <u>-</u> |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| <u>Type</u> | <u>Capacitance code</u> | <u>Tolerance</u> | <u>Rated DC Voltage</u> | <u>Package</u> | <u>Pitch size</u> | <u>RoHs</u> | <u>Additional characters may be added for special requirements</u> |
| HH2 | pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 107 = 100uF | M: +/-20% | Code 035: 35VDC 035 = 35VDC 050 = 50VDC 100 = 100VDC | B: Bulk | 2: pitch size 2.0mm 5: pitch size 5.0mm | | |