

SMD Aluminum Electrolytic Capacitor – JCE

FEATURES

- Wide temperature range -55~+105°C
- Load life of 2000~3000 hours
- Comply with the RoHS directive



SPECIFICATIONS

| | |
|-----------------------|---|
| Operating Temperature | -55°C ~ +105°C |
| Voltage Range | 6.3V ~ 50V.DC |
| Capacitance Range | 0.1 ~ 1500 μF |
| Capacitance Tolerance | ±20% at 120Hz, 20°C |
| Leakage Current | Leakage current (Φ4~Φ10) ≤0.01CV or 3μA, whichever is greater (After 2 minutes application of rated voltage) Leakage current (Φ12.5~Φ16) ≤0.03CV or 4μA, whichever is greater (After 1 minutes application of rated voltage) |

Dissipation Factor (Tan δ)

Measurement Frequency: 120Hz, Temperature: 20°C

| Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | |
|-------------------|-----------|------|------|------|------|------|------|
| Tan δ (Max.) | Φ4~Φ10 | 0.28 | 0.24 | 0.20 | 0.16 | 0.13 | 0.12 |
| | Φ12.5~Φ16 | 0.38 | 0.34 | 0.30 | 0.26 | 0.22 | 0.18 |

Stability At Low Temp.

Measurement Frequency: 120Hz

| Rated Voltage (V) | | 6.3 | 10 | 16 | 25 | 35 | 50 |
|-------------------------------|-----------|------------------|----|----|----|----|----|
| Impedance Ratio ZT/Z20 (Max.) | Φ4~Φ10 | Z(-25°C)/Z(20°C) | 3 | 3 | 2 | 2 | 2 |
| | | Z(-55°C)/Z(20°C) | 8 | 5 | 4 | 3 | 3 |
| | Φ12.5~Φ16 | Z(-25°C)/Z(20°C) | 5 | 4 | 3 | 2 | 2 |
| | | Z(-55°C)/Z(20°C) | 12 | 10 | 8 | 5 | 4 |

Load Life

After 3000 hours*(2000 hours for Ø4~ Ø6.3 and Ø 8*6.2) application of rated voltage at 105°C , They meet the characteristics listed at right.

| | |
|--------------------|---|
| Capacitance Change | Within ± 25% of initial value |
| Leakage Current | Initial specified value or less |
| Dissipation Factor | 200% or less of initial specified value |

Shelf Life

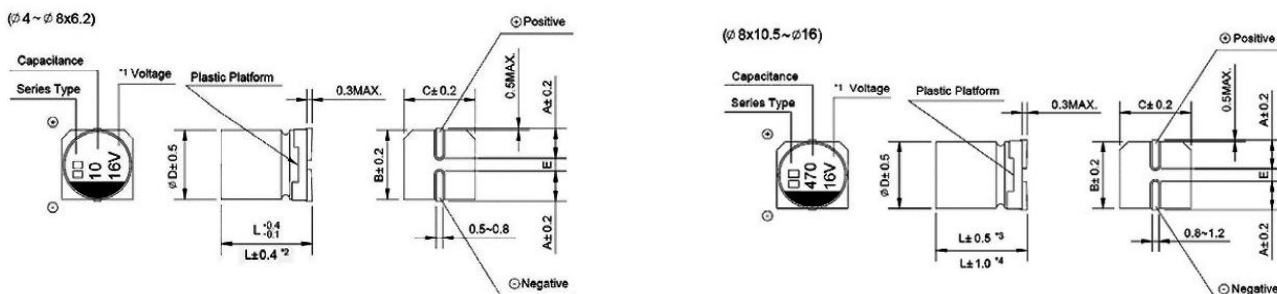
After leaving capacitors under no load at 105°C for 1000 hours, They meet the specified value for life characteristics listed above.

Resistance to Soldering Heat

After reflow soldering and restored at room temperature, they meet the characteristics listed at right.

| | |
|--------------------|---------------------------------|
| Capacitance Change | Within ± 10% of initial value |
| Dissipation Factor | Initial specified value or less |
| Leakage Current | Initial specified value or less |

DRAWING (Unit: mm)



*1 Voltage mark for 6.3V is [6V] *2 Applicable to Φ6.3*7.7 *3 Applicable to Φ8*10.5~Φ10 *4 Applicable to Φ12.5~Φ16

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DIMENSIONS (Unit: mm)

| ØD×L | 4×5.8 | 5×5.8 | 6.3×5.8 | 6.3×7.7 | 8×6.2 | 8×10.5 | 10×10.5 | 10×13.5 | 12.5×13.5 | 12.5×16 | 16×16.5 |
|-------|-------|-------|---------|---------|-------|--------|---------|---------|-----------|---------|---------|
| A | 2.0 | 2.2 | 2.6 | 2.6 | 3.4 | 3.0 | 3.3 | 3.3 | 4.9 | 4.9 | 5.8 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.4 | 8.4 | 10.4 | 10.4 | 13.0 | 13.0 | 17.0 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.4 | 8.4 | 10.4 | 10.4 | 13.0 | 13.0 | 17.0 |
| E±0.2 | 1.0 | 1.4 | 1.9 | 1.9 | 2.3 | 3.1 | 4.7 | 4.7 | 4.7 | 4.7 | 6.4 |
| L | 5.8 | 5.8 | 5.8 | 7.7 | 6.2 | 10.5 | 10.5 | 13.5 | 13.5 | 16.0 | 16.5 |

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| WV/V | | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|--------|-----|----------------------|--------------|------------------------|--------------|-------------------------------------|-----------------------|--------------------|------------|------------------------|--------------|----------------------|----------------|
| Cap/µF | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | |
| 0.1 | OR1 | | | | | | | | | | | 4×5.8 | 1 |
| 0.22 | R22 | | | | | | | | | | | 4×5.8 | 2 |
| 0.33 | R33 | | | | | | | | | | | 4×5.8 | 3 |
| 0.47 | R47 | | | | | | | | | | | 4×5.8 | 5 |
| 1 | O10 | | | | | | | | | | | 4×5.8 | 10 |
| 2.2 | 2R2 | | | | | | | | | | | 4×5.8 | 16 |
| 3.3 | 3R3 | | | | | | | | | | | 4×5.8 | 16 |
| 4.7 | 4R7 | | | | | | | 4×5.8 | 13 | 4×5.8 | 14 | 5×5.8 | 23 |
| 10 | 100 | -- | -- | -- | -- | 4×5.8 | 18 | 5×5.8 | 20 | 5×5.8 | 21 | 6.3×5.8 | 35 |
| 22 | 220 | 4×5.8 | 22 | 5×5.8 | 25 | 5×5.8 | 27 | 6.3×5.8 | 36 | 6.3×5.8 | 38 | 6.3×7.7 (8×6.2) | 70 (70) |
| 33 | 330 | 5×5.8 | 27 | 5×5.8 | 30 | 6.3×5.8 | 40 | 6.3×5.8 | 60 | 6.3×7.7 (8×6.2) | 84 (84) | 8×10.5 | 90 |
| 47 | 470 | 5×5.8 | 33 | 6.3×5.8 | 41 | 6.3×5.8 | 48 | 6.3×7.7 (8×6.2) | 90 (91) | 8×10.5 | 98 | 8×10.5 | 90 |
| 100 | 101 | 6.3×5.8 | 50 | 6.3×5.8 (8×6.2) | 53 (110) | 6.3×5.8 | 60 | 8×10.5 | 130 | 8×10.5 | 130 | 10×10.5 | 100 |
| 150 | 151 | 6.3×5.8 | 55 | 6.3×7.7 | 105 | 6.3×7.7 | 95 | 8×10.5 | 140 | 10×10.5 | 315 | 10×10.5 | 100 |
| 220 | 221 | 6.3×7.7 | 100 | 8×10.5 | 210 | 8×10.5 | 210 | 10×10.5 | 190 | 10×10.5 | 315 | 10×13.5 (10×10.5) | 250 (100) |
| 330 | 331 | 8×10.5 | 210 | 8×10.5 | 210 | 8×10.5 | 210 | 10×10.5 | 315 | 10×10.5 | 315 | 12.5×13.5 | 400 |
| 470 | 471 | 8×10.5 | 210 | 10×10.5 | 315 | 10×10.5 | 315 | 10×10.5 | 315 | 12.5×13.5 (10×13.5) | 500 (360) | 16×16.5 (12.5×16) | 650 (500) |
| 680 | 681 | 8×10.5 | 210 | 10×10.5 | 315 | 10×10.5 | 315 | 10×13.5 | 380 | 12.5×13.5 | 500 | | |
| 1000 | 102 | 10×10.5 | 315 | 10×13.5 (10×10.5) | 360 (315) | 12.5×13.5 (10×13.5) (10×10.5) | 450 (350) (315) | 12.5×13.5 | 550 | 16×16.5 (12.5×16) | 700 (550) | | |
| 1500 | 152 | 10×13.5 (10×10.5) | 450 (315) | 12.5×13.5 | 500 | 12.5×13.5 | 500 | 12.5×16 | 800 | | | | |
| 2200 | 222 | 12.5×13.5 | 620 | 12.5×16 (12.5×13.5) | 650 (600) | 16×16.5 | 900 | 16×16.5 | 1000 | | | | |
| 3300 | 332 | 12.5×16 | 750 | 16×16.5 | 950 | | | | | | | Case Size | Ripple Current |

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

| Frequency | | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz~ |
|-------------|-----------|------------|-------|-------|------|--------|
| Coefficient | Φ4~Φ10 | 0.1~100µF | 0.70 | 1.00 | 1.17 | 1.50 |
| | | 150~1500µF | 0.85 | 1.00 | 1.08 | 1.30 |
| | Φ12.5~Φ16 | ~470µF | 0.75 | 1.00 | 1.35 | 2.00 |
| | | 680~3300µF | 0.85 | 1.00 | 1.23 | 1.34 |

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