

SMD Aluminum Electrolytic Capacitor – JCS

FEATURES

- Designed for surface mounting on high density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.

SPECIFICATIONS

| | |
|-----------------------|---|
| Operating Temperature | -40°C ~ +85°C |
| Voltage Range | 4V ~ 100V.DC |
| Capacitance Range | 0.1 ~ 10000 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) ≤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) | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
|-------------------|--------|------|------|------|------|------|------|------|------|------|
| Tan δ (Max.) | Φ4~Φ10 | 0.35 | 0.30 | 0.24 | 0.20 | 0.16 | 0.14 | 0.14 | 0.12 | 0.10 |
| | Φ12.5 | 0.42 | 0.38 | 0.34 | 0.30 | 0.26 | 0.22 | 0.18 | 0.14 | 0.10 |

Stability At Low Temp.

Measurement Frequency: 120Hz

| Rated Voltage (V) | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50~100 |
|-------------------|--------|-------------------|-----|----|----|----|----|--------|
| Impedance Ratio | Φ4~Φ10 | Z(-25°C)/ Z(20°C) | 7 | 4 | 3 | 2 | 2 | 2 |
| | | Z(-40°C)/ Z(20°C) | 15 | 8 | 6 | 4 | 4 | 3 |
| ZT/Z20 (Max.) | Φ12.5 | Z(-25°C)/ Z(20°C) | 7 | 5 | 4 | 3 | 2 | 2 |
| | | Z(-40°C)/ Z(20°C) | 17 | 12 | 10 | 8 | 5 | 4 |

Load Life

After 2000 hours application of rated voltage at 85°C, Capacitors meet the characteristics requirements listed below.

| | |
|--------------------|--|
| Capacitance Change | Within ± 20% of initial value (Within ± 30% of initial value for 4V) |
| Dissipation Factor | 200% or less of initial specified value |
| Leakage Current | Initial specified value or less |

Shelf Life

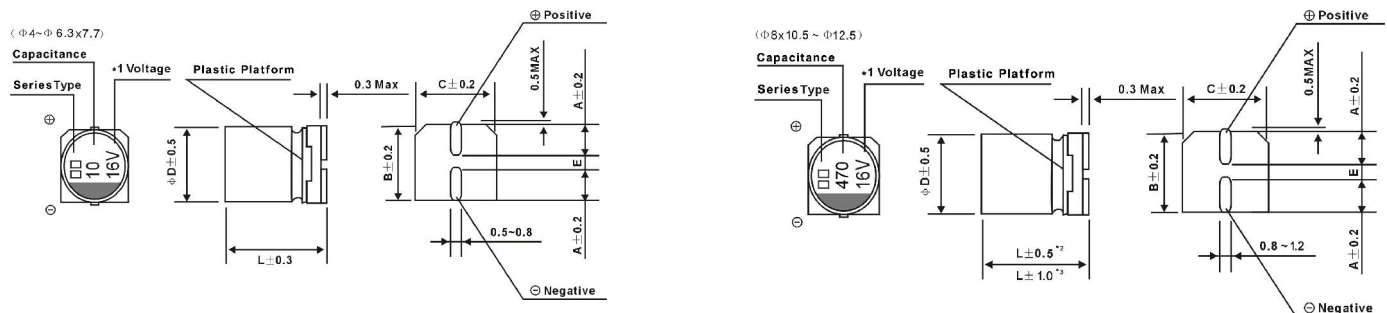
After leaving capacitors under no load at 85°C for 1000 hours, They meet the specified value for load life characteristics listed above.

Resistance to Soldering Heat

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

| | |
|--------------------|---------------------------------|
| 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 Φ8x10.5~Φ10

*3 Applicable to Φ12.5

(mm)

| ΦDxL | 4x5.4 | 5x5.4 | 6.3x5.4 | 6.3x7.7 | 8x10.5 | 10x10.5 | 10x13.5 | 12.5x13.5 |
|-------|-------|-------|---------|---------|--------|---------|---------|-----------|
| A | 1.8 | 2.1 | 2.4 | 2.4 | 2.9 | 3.2 | 3.2 | 4.7 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 13.0 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 | 10.3 | 13.0 |
| E±0.2 | 1.0 | 1.3 | 2.2 | 2.2 | 3.1 | 4.4 | 4.4 | 4.4 |
| L | 5.4 | 5.4 | 5.4 | 7.7 | 10.5 | 10.5 | 13.5 | 13.5 |

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Just your best choice

SMD Aluminum Electrolytic Capacitor – JCS

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

| Coefficient | Frequency | | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz~ |
|-------------|-----------|--------------|------|-------|-------|------|--------|
| | Φ4~Φ10 | 0.1~68μF | 0.70 | 1.00 | 1.17 | 1.36 | 1.50 |
| | | 100~3300μF | 0.85 | 1.00 | 1.08 | 1.20 | 1.30 |
| Φ12.5 | ~68μF | | 0.75 | 1.00 | 1.35 | 1.57 | 2.00 |
| | | 100~680μF | 0.8 | 1.00 | 1.23 | 1.34 | 1.50 |
| | | 1000~10000μF | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |

STANDARD SIZE

| WV Cap.(μF) | | 4 OG | | 6.3 OJ | | 10 1A | | 16 1C | | 25 1E | |
|----------------|-----|----------------------|--------------|------------------------|--------------|---------------------|--------------|-------------------------------------|-----------------------|-----------------------|----------------|
| 4.7 | 4R7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10 | 100 | -- | -- | -- | -- | -- | -- | 4x5.4 | 25 | 5x5.4 (4x5.4) | 28 (20) |
| 15 | 150 | -- | -- | -- | -- | -- | -- | 4x5.4 | 28 | 5x5.4 | 34 |
| 22 | 220 | -- | -- | 4x5.4 | 31 | 5x5.4 (4x5.4) | 35 (28) | 5x5.4 (4x5.4) | 39 (28) | 6.3x5.4 (5x5.4) | 52 (35) |
| 33 | 330 | 4x5.4 | 26 | 5x5.4 (4x5.4) | 39 (31) | 5x5.4 (4x5.4) | 43 (32) | 6.3x5.4 (5x5.4) | 57 (40) | 6.3x5.4 (5x5.4) | 63 (42) |
| 47 | 470 | 4x5.4 | 34 | 5x5.4 (4x5.4) | 47 (36) | 6.3x5.4 (5x5.4) | 59 (43) | 6.3x5.4 (5x5.4) | 68 (44) | 6.3x5.4 | 68 |
| 56 | 560 | 4x5.4 | 39 | 5x5.4 | 46 | 6.3x5.4 | 57 | 6.3x5.4 | 74 | 6.3x5.4 | 82 |
| 68 | 680 | 5x5.4 | 45 | 6.3x5.4 (5x5.4) | 62 (52) | 6.3x5.4 | 72 | 6.3x5.4 | 80 | 6.3x5.4 | 94 |
| 100 | 101 | 5x5.4 | 61 | 6.3x5.4 (5x5.4) | 71 (55) | 5x5.4 6.3x5.4 | 55 76 | 6.3x5.4 | 86 | 6.3x7.7 | 130 |
| 150 | 151 | 6.3x5.4 | 74 | 6.3x5.4 | 78 | 6.3x5.4 | 88 | 6.3x7.7 | 135 | 8x10.5 (6.3 x 7.7) | 200 (130) |
| 220 | 221 | 6.3x5.4 | 82 | 6.3x5.8 | 95 | 6.3x5.8 6.3x7.7 | 95 150 | 8x10.5 6.3x7.7 | 215 (150) | 8x10.5 | 250 |
| 330 | 331 | 6.3x7.7 | 150 | 6.3x7.7 (8x6.2) | 150 (300) | 8x10.5 | 280 | 8x10.5 | 280 | 10x10.5 (8x10.5) | 340 (310) |
| 470 | 471 | 6.3x7.7 | 150 | 8x10.5 (6.3x7.7) | 300 (150) | 10x10.5 (8x10.5) | 320 (300) | 10x10.5 (8x10.5) | 420 (330) | 10x10.5 | 400 |
| 680 | 681 | 8x10.5 | 300 | 8x10.5 | 300 | 10x10.5 | 380 | 10x10.5 | 450 | 10x13.5 | 550 |
| 1000 | 102 | 8x10.5 | 330 | 10x10.5 (8x10.5) | 430 (330) | 10x10.5 | 450 | 12.5x13.5 (10x13.5) (10x10.5) | 710 (550) (490) | 12.5x13.5 | 820 |
| 1500 | 152 | 10x10.5 | 450 | 10x13.5 (10x10.5) | 650 (450) | 10x13.5 | 650 | 12.5x13.5 | 750 | -- | -- |
| 2200 | 222 | 10x13.5 (10x10.5) | 620 (480) | 12.5x13.5 (10x13.5) | 890 (720) | 12.5x13.5 | 960 | -- | -- | -- | -- |
| 3300 | 332 | 10x13.5 | 700 | 12.5x13.5 | 900 | -- | -- | -- | -- | -- | -- |
| 4700 | 472 | 12.5x13.5 | 850 | -- | -- | -- | -- | -- | -- | -- | -- |
| 6800 | 682 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10000 | 103 | -- | -- | -- | -- | -- | -- | -- | -- | Case Size | Ripple Current |

| WV Cap.(μF) | | 35 1V | | 50 1H | | 63 1J | | 100 2A | |
|----------------|-----|-------------------------------------|-----------------------|----------------------------------|----------------------|-------------------------------------|-----------------------|----------------------|------------------|
| 0.1 | OR1 | -- | -- | 4x5.4 | 1.0 | 4x5.4 | 1.0 | -- | -- |
| 0.22 | R22 | -- | -- | 4x5.4 | 2.3 | 4x5.4 | 2.3 | -- | -- |
| 0.33 | R33 | -- | -- | 4x5.4 | 3.5 | 4x5.4 | 3.5 | -- | -- |
| 0.47 | R47 | -- | -- | 4x5.4 | 5.0 | 4x5.4 | 5.0 | -- | -- |
| 1 | O10 | -- | -- | 4x5.4 | 10 | 4x5.4 | 10 | 4x5.4 | 10 |
| 1.5 | 1R5 | -- | -- | 4x5.4 | 12 | 4x5.4 | 12 | 6.3x5.4 | 15 |
| 2.2 | 2R2 | -- | -- | 4x5.4 | 15 | 4x5.4 | 15 | 6.3x5.4 | 20 |
| 3.3 | 3R3 | -- | -- | 4x5.4 | 18 | 5x5.4 | 20 | 6.3x7.7 (6.3x5.4) | 45 (28) |
| 4.7 | 4R7 | -- | -- | 5x5.4 (4x5.4) | 23 (19) | 6.3x5.4 (5x5.4) | 30 (23) | 6.3x7.7 (6.3x5.4) | 50 (30) |
| 10 | 100 | 5x5.4 (4x5.4) | 30 (20) | 6.3x5.4 (5x5.4) | 34 (27) | 6.3x7.7 (6.3x5.4) | 55 (34) | 8x10.5 (6.3x7.7) | 110 (50) |
| 22 | 220 | 6.3x5.4 | 54 | 6.3x5.4 | 60 | 8x10.5 (6.3x7.7) | 140 (70) | 10x10.5 (8x10.5) | 180 (120) |
| 33 | 330 | 6.3x5.4 | 60 | 6.3x7.7 | 85 | 8x10.5 (6.3x7.7) | 160 (85) | 10x10.5 | 190 |
| 47 | 470 | 6.3x5.4 | 70 | 10x10.5 (8x10.5) (6.3x7.7) | 130 (110) (90) | 10x10.5 (8x10.5) | 230 (170) | -- | -- |
| 56 | 560 | 6.3x7.7 | 80 | 6.3x7.7 | 110 | 10x10.5 | 250 | -- | -- |
| 68 | 680 | 6.3x7.7 | 110 | 8x10.5 | 170 | 10x10.5 | 260 | -- | -- |
| 100 | 101 | 8x10.5 (6.3x7.7) | 175 (120) | 10x10.5 (8x10.5) | 240 (200) | 12.5x13.5 (10x13.5) (10x10.5) | 380 (290) (280) | 12.5x13.5 | 440 |
| 150 | 151 | 8x10.5 | 220 | 10x10.5 | 240 | 10 x 13.5 | 310 | -- | -- |
| 220 | 221 | 10x10.5 (8x10.5) | 310 (270) | 10x13.5 (10x10.5) | 400 (320) | 12.5x13.5 (10x13.5) | 580 (330) | -- | -- |
| 330 | 331 | 10x10.5 | 350 | 12.5x13.5 (10x13.5) | 600 (420) | -- | -- | -- | -- |
| 470 | 471 | 12.5x13.5 (10x13.5) (10x10.5) | 600 (530) (400) | -- | -- | -- | -- | -- | -- |
| 680 | 681 | 12.5x13.5 (10x13.5) | 750 (560) | -- | -- | -- | -- | -- | -- |
| 1000 | 102 | -- | -- | -- | -- | -- | -- | Case size | Allowable ripple |
| 2200 | 222 | -- | -- | -- | -- | -- | -- | | |

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