

Chip Aluminum Electrolytic Capacitors

EAS1 - Wide Temperature Aluminum Electrolytic Capacitor

ELECSOUND

Elecsound is a leading manufacturer of aluminum electrolytic capacitors. Mainly include radial type electrolytic capacitors and chip aluminum electrolytic capacitors.

Features:

- Designed for surface mounting on density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.
- Available for reflow soldering
- Available for high density surface mounting
- High stability and reliability
- Temperature up to +105°C with load life of 2000 hours
- Rohs Compliant



Specifications:

Operating Temperature Range(°C): -55~+105
 Rated Voltage Range(V): 4~100V
 Nominal Capacitance Ranges(μF): 0.1~6800
 Capacitance Tolerance(20 °C,120Hz) : 20%

Leakage current Φ4~Φ10: <0.01CV or 3uA whichever is greater(at 25 °C ,after 2 minutes)
 (μA): Φ12.5~Φ16: <0.03CV or 4uA whichever is greater(at 25 °C ,after 1 minutes)

Resistance to Soldering Heat

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

Dissipation Factor(25 °C, 120Hz)

| Rated Voltage (V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
|-------------------|-----------|------|------|------|------|------|------|------|------|
| tan δ | Φ4~Φ10 | 0.35 | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.12 |
| | Φ12.5~Φ16 | 0.42 | 0.38 | 0.34 | 0.30 | 0.26 | 0.22 | 0.18 | 0.14 |

Stability at Low Temperature (Measurement frequency: 120Hz)

| Rated voltage (V.DC) | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
|---------------------------------|-----------|------------------|-----|----|----|----|----|----|----|-----|
| Impedance ratio ZT/Z20 (max) | Φ4~Φ10 | Z(-25°C)/Z(20°C) | 7 | 4 | 3 | 2 | 2 | 2 | 2 | 3 |
| | | Z(-40°C)/Z(20°C) | 15 | 8 | 6 | 4 | 4 | 3 | 3 | 4 |
| | Φ12.5~Φ16 | Z(-25°C)/Z(20°C) | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 2 |
| | | Z(-40°C)/Z(20°C) | 17 | 12 | 10 | 8 | 5 | 4 | 3 | 3 |

Load Life(+105 °C)

| | |
|--------------------|--|
| Time | 2000 hours (1000 hours* for Φ4~Φ6.3x5.4) |
| Leakage Current | Not more than the specified value. |
| Capacitance Change | Within ±20% of the initial value for capacitors of 10V or more, and within ±30% of the initial value for capacitors of 4V & 6.3V |
| Dissipation Factor | Not more than 200% of the specified value. |

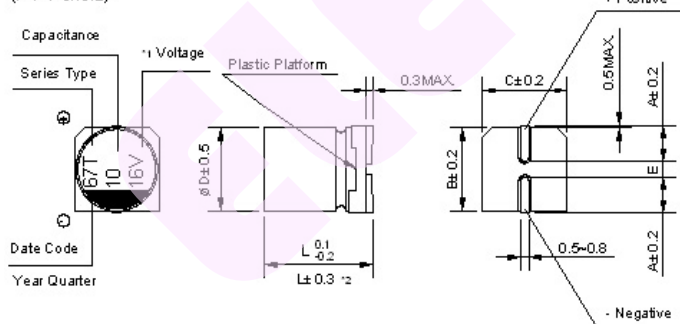
Shelf Life(+105 °C)

| | |
|--------------------|--|
| Time | 2000 hours |
| Leakage Current | Not more than the specified value. |
| Capacitance Change | Within ±15% of the initial value. |
| Dissipation Factor | Not more than 200% of the specified value. |

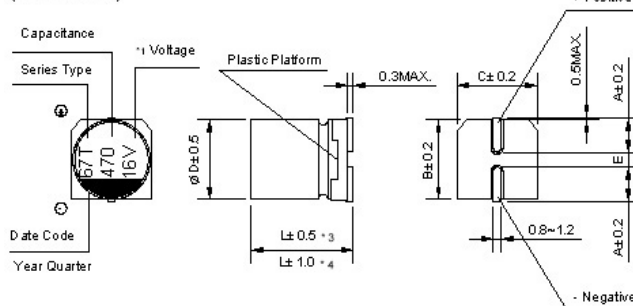
After test:Rated Voltage to be applied for 30 minutes, 24 to 48 hours before measurement.

Dimensions : (Unit:MM)

(Φ4~Φ8x6.2)



(Φ8x10.5~Φ16)



| D×L | 4×5.4 | 5×5.4 | 6.3×5.4 | 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 | 1.8 | 2.1 | 2.4 | 2.4 | 3.3 | 2.9 | 3.2 | 3.2 | 4.7 | 4.7 | 5.5 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 8.3 | 10.3 | 10.3 | 12.8 | 12.8 | 16.3 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 8.3 | 10.3 | 10.3 | 12.8 | 12.8 | 16.3 |
| E ± 0.2 | 1 | 1.3 | 2.2 | 2.2 | 2.2 | 3.1 | 4.4 | 4.4 | 4.4 | 4.4 | 6.7 |
| L | 5.4 | 5.4 | 5.4 | 7.7 | 6.2 | 10.5 | 10.5 | 13.5 | 13.5 | 16 | 16.5 |

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Frequency Correction Factor of Rated Ripple Current

| Frequency | | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz~ |
|------------------|-----------|------|-------|-------|------|--------|
| Capacitance (μF) | 0.1~68 | 0.70 | 1.00 | 1.17 | 1.36 | 1.50 |
| | 100~3300 | 0.85 | 1.00 | 1.08 | 1.20 | 1.30 |
| Φ4~Φ10 | ~68 | 0.75 | 1.00 | 1.35 | 1.57 | 2.00 |
| | 100~680 | 0.80 | 1.00 | 1.23 | 1.34 | 1.50 |
| | 1000~6800 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |

Standard size & Maximum permissible ripple current

| WV | | 4 0G | | 6.3 0J | | 10 1A | | 16 1C | | 25 1E | |
|----------|-----|----------------------|----------------|------------------------|----------------|---------------------|----------------|-------------------------------------|-----------------------|---------------------|----------------|
| Cap.(μF) | | Case Size | Ripple Current | Case Size | Ripple Current | Case Size | Ripple Current | Case Size | Ripple Current | Case Size | Ripple Current |
| 4.7 | 4R7 | - | - | - | - | - | - | - | - | 4×5.4 | 13 |
| 10 | 100 | - | - | - | - | - | - | 4×5.4 | 18 | 5×5.4 (4×5.4) | 20 (14) |
| 22 | 220 | - | - | 4×5.4 | 22 | 5×5.4 (4×5.4) | 25 (20) | 5×5.4 (4×5.4) | 27 (20) | 6.3×5.4 (5×5.4) | 36 (25) |
| 33 | 330 | 5×5.4 (4×5.4) | 30 (18) | 5×5.4 (4×5.4) | 27 (22) | 5×5.4 (4×5.4) | 30 (22) | 6.3×5.4 (5×5.4) | 40 (28) | 6.3×5.4 (5×5.4) | 44 (29) |
| 47 | 470 | 5×5.4 (4×5.4) | 36 (24) | 5×5.4 (4×5.4) | 33 (25) | 6.3×5.4 (5×5.4) | 41 (30) | 6.3×5.4 (5×5.4) | 48 (31) | 6.3×5.4 (8×6.2) | 48 (91) |
| 100 | 101 | 6.3×5.4 (5×5.4) | 60 (43) | 6.3×5.4 (5×5.4) | 50 (39) | 6.3×5.4 (8×6.2) | 53 (110) | 6.3×5.4 (8×6.2) | 60 (120) | 6.3×7.7 | 91 |
| 150 | 151 | 6.3×5.4 | 52 | 6.3×5.4 | 55 | 6.3×5.4 | 62 | 6.3×7.7 | 95 | 8×10.5 (6.3×7.7) | 140 (100) |
| 220 | 221 | 6.3×5.4 | 57 | 6.3×7.7 (6.3×5.4) | 105 (67) | 6.3×7.7 (8×6.2) | 105 (105) | 8×10.5 (6.3×7.7) | 150 (105) | 8×10.5 | 175 |
| 330 | 331 | 6.3×7.7 | 100 | 6.3×7.7 | 105 | 8×10.5 | 196 | 8×10.5 | 195 | 10×10.5 (8×10.5) | 240 (220) |
| 470 | 471 | 6.3×7.7 | 105 | 8×10.5 (6.3×7.7) | 210 (120) | 10×10.5 (8×10.5) | 260 (210) | 10×10.5 (8×10.5) | 295 (230) | 10×10.5 | 280 |
| 680 | 681 | 8×10.5 | 210 | 8×10.5 | 210 | 10×10.5 | 270 | 10×10.5 | 315 | 10×13.5 | 400 |
| 1000 | 102 | 8×10.5 | 230 | 10×10.5 (8×10.5) | 300 (230) | 10×10.5 | 315 | 12.5×13.5 (10×13.5) (10×10.5) | 500 (390) (340) | 12.5×13.5 | 580 |
| 1500 | 152 | 10×10.5 | 315 | 10×13.5 (10×10.5) | 450 (315) | 10×13.5 | 460 | 12.5×13.5 | 550 | 12.5×16 | 850 |
| 2200 | 222 | 10×13.5 (10×10.5) | 440 (340) | 12.5×13.5 (10×13.5) | 620 (500) | 12.5×13.5 | 680 | 16×16.5 (12.5×16) | 950 (750) | 16×16.5 | 1050 |
| 3300 | 332 | 10×13.5 | 490 | 12.5×16 (12.5×13.5) | 700 (660) | 16×16.5 | 1000 | 16×16.5 | 1000 | - | - |
| 4700 | 472 | 12.5×13.5 | 600 | 16×16.5 | 1000 | - | - | - | - | - | - |
| 6800 | 682 | 16×16.5 (12.5×16) | 950 (650) | - | - | - | - | - | - | - | - |

Ripple Current (mA rms) at 105°C 120Hz

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Standard size & Maximum permissible ripple current

| WV | | 35 | | 50 | | 63 | | 100 | |
|----------------|-----|-----------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|
| | | 1V | | 1H | | 1J | | 2A | |
| Cap.(μ F) | | Case Size | Ripple Current | Case Size | Ripple Current | Case Size | Ripple Current | Case Size | Ripple Current |
| 0.1 | 0R1 | - | - | 4x5.4 | 0.7 | 4x5.4 | 0.7 | - | - |
| 0.22 | R22 | - | - | 4x5.4 | 1.6 | 4x5.4 | 1.6 | - | - |
| 0.33 | R33 | - | - | 4x5.4 | 2.5 | 4x5.4 | 2.5 | - | - |
| 0.47 | R47 | - | - | 4x5.4 | 3.5 | 4x5.4 | 3.5 | - | - |
| 1 | 10 | - | - | 4x5.4 | 7 | 4x5.4 | 7 | 4x5.4 | 7 |
| 2.2 | 2R2 | - | - | 4x5.4 | 11 | 4x5.4 | 11 | 6.3x5.4 | 14 |
| 3.3 | 3R3 | 4x5.4 | 13 | 4x5.4 | 13 | 5x5.4 | 13 | 6.3x7.7 | 32 |
| | | | | | | | | (6.3x5.4) | -20 |
| | | | | | | | | (8x6.2) | -30 |
| | | | | | | | | 6.3x7.7 | 35 |
| 4.7 | 4R7 | 4x5.4 | 14 | 5x5.4 | 16 | 5x5.4 | 16 | 6.3x7.7 | 35 |
| | | | | (4x5.4) | -13 | | | (6.3x5.4) | -21 |
| 10 | 100 | 5x5.4 | 21 | 6.3x5.4 | 24 | 6.3x7.7 | 39 | 8x10.5 | 77 |
| | | (4x5.4) | -14 | | | (6.3x5.4) | -24 | (6.3x7.7) | -35 |
| | | - | - | | | (8x6.2) | -25 | - | - |
| 22 | 220 | 6.3x5.4 | 38 | 6.3x7.7 | 51 | 8x10.5 | 98 | 10x10.5 | 126 |
| | | | | (6.3x5.4) | -42 | (6.3x7.7) | -49 | (8x10.5) | -84 |
| | | | | (8x6.2) | -70 | - | - | - | - |
| 33 | 330 | 6.3x5.4 | 42 | 6.3x7.7 | 60 | 8x10.5 | 112 | 10x10.5 | 133 |
| | | (8x6.2) | -84 | | | | | | |
| 47 | 470 | 6.3x7.7 | 70 | 8x10.5 | 120 | 10x10.5 | 160 | 12.5x13.5 | 250 |
| | | (6.3x5.4) | -50 | (6.3x7.7) | -63 | (8x10.5) | -119 | (10x13.5) | -160 |
| | | - | - | - | - | - | - | (10x10.5) | -140 |
| 68 | 680 | - | - | - | - | - | - | 12.5x13.5 | 300 |
| | | - | - | - | - | - | - | (10x13.5) | -180 |
| | | - | - | - | - | - | - | - | - |
| 100 | 101 | 8x10.5 | 120 | 10x10.5 | 170 | 12.5x13.5 | 270 | 16x16.5 | 450 |
| | | (6.3x7.7) | -84 | (8x10.5) | -140 | (10x13.5) | -210 | (12.5x13.5) | -380 |
| | | - | - | - | - | (10x10.5) | -196 | - | - |
| 150 | 151 | 8x10.5 | 155 | 10x10.5 | 170 | 10x13.5 | 225 | - | - |
| 220 | 221 | 10x10.5 | 220 | 10x13.5 | 280 | 16x16.5 | 560 | 16x16.5 | 550 |
| | | (8x10.5) | -190 | (10x10.5) | -220 | (12.5x13.5) | -470 | | |
| | | - | - | - | - | (10x13.5) | -235 | | |
| 330 | 331 | 10x10.5 | 245 | 16x16.5 | 600 | 16x16.5 | 700 | - | - |
| | | | | (12.5x13.5) | -420 | (12.5x16) | -510 | - | - |
| | | | | (10x13.5) | -295 | - | - | - | - |
| 470 | 471 | 12.5x13.5 | 520 | 16x16.5 | 700 | 16x16.5 | 750 | - | - |
| | | (10x13.5) | -375 | (12.5x16) | -520 | | | - | - |
| | | (10x10.5) | -280 | - | - | | | - | - |
| 680 | 681 | 12.5x13.5 | 530 | 16x16.5 | 750 | - | - | - | - |
| | | (10x13.5) | -395 | | | - | - | - | - |
| 1000 | 102 | 16x16.5 | 750 | - | - | - | - | - | - |
| | | (12.5x16) | -600 | - | - | - | - | - | - |

Ripple Current (mA rms) at 105°C 120Hz