



Aluminum Electrolytic Capacitors

Axial Standard and High Voltage 85°C and 105°C

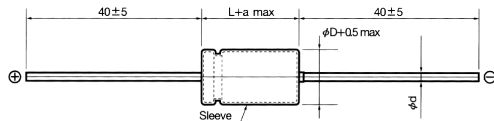
AX, AXHV, UTWA, UTWAHV Series

- The same usage as RD, RDHV, UTW, UTWHV series
- Axial lead wire type

SPECIFICATION

| ITEM | SPECIFICATION | | | | | | | | | | | | | | | |
|---|--|--------------------------|------|------|------|----------------------------|----------------------|------|------|------|---|-----------------------|------|------|------|------|
| Capacitance Tolerance (120Hz 20°C) | ± 20% (M) | | | | | | | | | | | | | | | |
| Rated Working Voltage | 6.3 WV~100WV | | | | | | | | | | 160WV~450WV | | | | | |
| Operation Temperature Range | -40 ~ +85°C (AX Series) | | | | | -40 ~ +105°C (UTWA Series) | | | | | -25~ +85°C (AXHV Series) -25~+105°C (UTWAHV Series) | | | | | |
| Surge Voltage (V) (20°C) | WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 315 | 350 | 400 | 450 |
| | SV | 8 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| Leakage Current (20°C) | I ≤ 0.01 CV or 3 Whichever is greater | | | | | | | | | | I ≤ 0.03 CV +10 | | | | | |
| | After rated voltage applied for 3 minutes | | | | | | | | | | | | | | | |
| | Where | I : Leakage Current (μA) | | | | | C : Capacitance (μF) | | | | | V : Rated Voltage (V) | | | | |
| Dissipation Factor (tan δ) (120Hz 20°C) | WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 315 | 350 | 400 | 450 |
| | DF | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.10 | 0.10 | 0.20 | 0.20 | 0.20 | 0.20 | 0.24 | 0.24 | 0.24 |
| | Add 0.02 per 1000 μ F for more than 1000 μ F | | | | | | | | | | | | | | | |
| Low Temperature Characteristics | Impedance ratio at 120Hz | | | | | | | | | | | | | | | |
| | Comparison ΔWV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 315 | 350 | 400 | 450 |
| | -25°C /20° | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| | -40°C/20° | 8 | 6 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | - | - | - | - | - | - |
| Load Life | After 1000 hours application of W.V. at 85°C (AX/AXHV Series) or 105°C (UTWA/UTWAHV Series) the capacitor shall meet the following limits | | | | | | | | | | | | | | | |
| | Capacitance Change | | | | | | | | | | 25% of Initial Value | | | | | |
| | Dissipation Factor | | | | | | | | | | 200% of Initial Specified Value | | | | | |
| | Leakage Current | | | | | | | | | | Initial Specified Value | | | | | |
| Shelf Life | After 500 hours to place at 85°C (AX/AXHV Series) or 105°C (UTWA/UTWAHV Series) without rated voltage applied, the capacitor shall meet the limits as same as load life. | | | | | | | | | | | | | | | |
| Other | Satisfied JIS C-5141 | | | | | | | | | | | | | | | |

DIMENSIONS (unit:mm)



| | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| φD | 5 | 6.3 | 8 | 10 | 13 | 16 | 18 | 22 | 25 |
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 |
| a | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |

RIPPLE CURRENT COEFFICIENTS

Frequency Multipliers

| WV | Freq.(Hz) Cap(μF) | 120 | 300 | 1K | 10K~ |
|-----------|----------------------|-----------|------|------|------|
| | | 0.47 ~ 47 | 1.00 | 1.35 | 1.57 |
| 6.3 ~ 100 | 100 ~ 470 | 1.00 | 1.23 | 1.34 | 1.50 |
| | 1000 ~ 22000 | 1.00 | 1.10 | 1.13 | 1.15 |
| 160 ~ 450 | 1 ~ 220 | 1.00 | 1.25 | 1.40 | 1.60 |
| | 330 ~ 470 | 1.00 | 1.10 | 1.13 | 1.15 |

Temperature Multipliers

| Temperature (°C) | ~ 75 | 85 | 105 |
|------------------|------|------|------|
| Coefficient | 1.27 | 1.00 | 0.85 |

Aluminum Electrolytic Capacitors



Axial Standard and High Voltage 85°C and 105°C

CASE SIZE & MAX RIPPLE CURRENT

☐ CASE SIZE ØDxL (mm) ☐ MAX RIPPLE CURRENT (mA/120Hz), (85°C/AX/AXHV Series, 105°C/UTWA/UTWHV Series)

| CAP Code | WV µF | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 100 | | 160 | | 200 | | 250 | | 315 | | 350 | | 400 | | 450 | | |
|----------|----------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|-----|--------|-----|--------|-----|-------|-----|-------|-----|--|
| | | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | |
| R47 | 0.47 | | | | | | | | | | | 5x12 | 5 | | | 5x12 | 10 | | | | | | | | | | | | | | | |
| 010 | 1.0 | | | | | | | | | | | 5x12 | 10 | | | 5x12 | 18 | 6.3x12 | 13 | 6.3x12 | 13 | 6.3x16 | 14 | 6.3x16 | 14 | 6.3x16 | 12 | 8x16 | 14 | 8x16 | 14 | |
| 2R2 | 2.2 | | | | | | | | | | | 5x12 | 23 | | | 5x12 | 28 | 6.3x16 | 23 | 6.3x16 | 23 | 8x16 | 27 | 8x16 | 27 | 8x16 | 24 | 8x20 | 28 | 10x21 | 31 | |
| 3R3 | 3.3 | | | | | | | | | | | 5x12 | 28 | 5x12 | 31 | 5x12 | 34 | 8x16 | 33 | 8x16 | 33 | 8x16 | 33 | 8x20 | 36 | 8x20 | 32 | 10x21 | 38 | 10x21 | 38 | |
| 4R7 | 4.7 | | | | | | | | | | | 5x12 | 34 | 5x12 | 37 | 5x12 | 40 | 8x16 | 39 | 8x16 | 39 | 8x20 | 45 | 8x20 | 45 | 10x21 | 46 | 10x21 | 46 | 10x26 | 50 | |
| 100 | 10 | | | | | 5x13 | 37 | 5x12 | 40 | 5x12 | 45 | 5x12 | 50 | 5x12 | 55 | 6.3x12 | 60 | 8x20 | 60 | 10x21 | 70 | 10x21 | 70 | 10x26 | 80 | 13x26 | 85 | 13x26 | 85 | 13x26 | 85 | |
| 220 | 22 | | | | | 5x12 | 60 | 5x12 | 65 | 5x12 | 70 | 6.3x12 | 85 | 6.3x12 | 90 | 8x16 | 120 | 10x26 | 120 | 13x26 | 140 | 13x26 | 140 | 13x32 | 150 | 13x32 | 140 | 16x32 | 150 | 16x32 | 150 | |
| 330 | 33 | | | 5x12 | 65 | 5x12 | 70 | 5x12 | 80 | 6.3x12 | 90 | 6.3x16 | 110 | 6.3x16 | 120 | 8x16 | 150 | 13x26 | 170 | 13x26 | 170 | 13x32 | 190 | 16x32 | 210 | 16x32 | 190 | 16x41 | 210 | 18x41 | 230 | |
| 470 | 47 | | | 5x12 | 80 | 5x12 | 85 | 6.3x12 | 100 | 6.3x16 | 120 | 6.3x16 | 130 | 8x16 | 160 | 8x20 | 190 | 16x32 | 230 | 13x32 | 230 | 16x32 | 260 | 16x32 | 260 | 16x41 | 260 | 18x41 | 290 | 22x40 | 310 | |
| 101 | 100 | 5x12 | 110 | 6.3x12 | 130 | 6.3x16 | 160 | 6.3x16 | 170 | 8x16 | 210 | 8x16 | 220 | 8x20 | 260 | 10x26 | 340 | 16x41 | 430 | 16x41 | 430 | 16x41 | 430 | 22x40 | 460 | 22x40 | 420 | 22x52 | 460 | 22x52 | 540 | |
| 221 | 220 | 6.3x16 | 220 | 6.3x16 | 210 | 8x13 | 257 | 8x16 | 280 | 8x20 | 340 | 10x21 | 410 | 10x26 | 480 | 13x26 | 560 | 22x40 | 680 | 22x40 | 680 | 22x40 | 680 | | | | | | | | | |
| 331 | 330 | 6.3x16 | 250 | 8x16 | 300 | 8x16 | 320 | 8x20 | 380 | 10x21 | 460 | 10x26 | 560 | 13x26 | 650 | 13x32 | 750 | 22x52 | 940 | 25x52 | 1010 | | | | | | | | | | | |
| 471 | 470 | 8x15 | 330 | 8x16 | 350 | 10x17 | 430 | 10x26 | 510 | 10x26 | 610 | 13x36 | 730 | 13x32 | 840 | 16x32 | 970 | 25x52 | 1200 | | | | | | | | | | | | | |
| 102 | 1000 | 10x21 | 600 | 10x21 | 640 | 10x26 | 770 | 13x26 | 900 | 13x32 | 1060 | 16x32 | 1260 | 16x32 | 1330 | 22x40 | 1540 | | | | | | | | | | | | | | | |
| 222 | 2200 | 13x26 | 1020 | 13x26 | 1090 | 16x28 | 1180 | 16x32 | 1480 | 16x32 | 1580 | 18x41 | 1920 | 22x40 | 2160 | 25x61 | 2430 | | | | | | | | | | | | | | | |
| 332 | 3300 | 13x26 | 1200 | 13x32 | 1390 | 16x32 | 1620 | 16x41 | 1710 | 16x41 | 2050 | 22x40 | 2340 | 22x52 | 2470 | | | | | | | | | | | | | | | | | |
| 472 | 4700 | 16x32 | 1500 | 16x32 | 1730 | 16x41 | 1840 | 18x41 | 2170 | 22x40 | 2470 | 22x52 | 2650 | 25x61 | 2710 | | | | | | | | | | | | | | | | | |
| 682 | 6800 | 16x32 | 1840 | 16x41 | 1930 | 18x41 | 2310 | 22x40 | 2580 | 22x52 | 2720 | 25x61 | 2910 | | | | | | | | | | | | | | | | | | | |
| 103 | 10000 | 16x32 | 2260 | 18x41 | 2350 | 22x40 | 2620 | 22x52 | 2940 | 25x61 | 3600 | | | | | | | | | | | | | | | | | | | | | |
| 153 | 15000 | 22x40 | 2450 | 22x40 | 2730 | 22x52 | 2860 | 25x61 | 3880 | | | | | | | | | | | | | | | | | | | | | | | |
| 223 | 22000 | 22x52 | 2550 | 22x52 | 2940 | 25x61 | 3630 | | | | | | | | | | | | | | | | | | | | | | | | | |