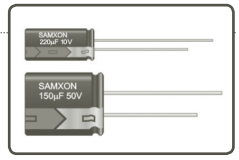
# SAMXON®

Aluminum Electrolytic Capacitors

**+105˚C, Longer Life Assurance (較長壽命), Low Impedance (低阻抗品)**

## FEATURES

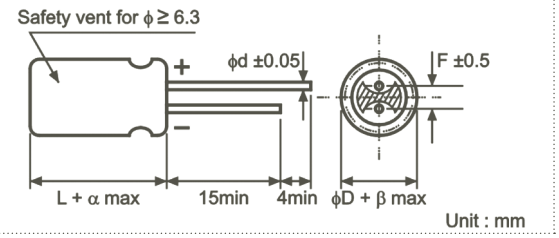



- Low impedance for high frequency.
- Long life of 4,000~10,000 hours at 105˚C.

## SPECIFICATIONS

| Item | Performance Characteristics |
|---|---|
| Operating Temperature Range | -40 to +105˚C |
| Rated Working Voltage Range | 6.3 to 100V |
| Nominal Capacitance Range | 3.3 to 15000μF |
| Capacitance Tolerance | ±20% at 120Hz, +20˚C |
| Leakage Current | I ≤0.01CV or 3 (μA)<br>whichever is greater measured after 2 minutes application of rated working voltage at +20˚C |
| tan δ (120Hz, +20˚C) | Working Voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100<br>tan δ (max.): 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.08<br>For capacitance value >1000μF, add 0.02 per another 1000μF |
| Low Temperature Characteristics | Impedance ratio max. at 120Hz<br>Rated Voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100<br>Z-25˚C / Z+20˚C: 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2<br>Z-40˚C / Z+20˚C: 8 / 6 / 4 / 3 / 3 / 3 / 3 / 3 |
| High Temperature Loading | Test time :<br>ΦD: 5~6.3 / 8~10 / 12.5~<br>6.3~10WV: 4,000h / 6,000h / 8,000h<br>16~100WV: 5,000h / 7,000h / 10,000h<br>Test temperature : +105˚C<br>Test conditions : Rated DC working voltage with rated ripple current<br>Post test requirements at +20˚C<br>Leakage current : ≤Initial specified value<br>Cap. change : within ±25% of the initial measured value<br>tan δ : ≤200% of the initial specified value |
| Shelf Life | At +105˚C no voltage applied after 1,000 hours and then being stabilized at +20˚C the capacitors shall meet the following limits<br>Leakage current : ≤Initial specified value<br>Cap. change : within ±25% of the initial measured value<br>tan δ : ≤200% of the initial specified value |
| Industrial Standard | JIS C - 5101-4 (IEC 60384-4) |

## CASE SIZE TABLE




| ΦD | 5 | 6.3 | 8 (L <20) | 8 (L ≥20) | 10 | 12.5 | 16~18 |
|---|---|---|---|---|---|---|---|
| F | 2.0 | 2.5 | 3.5 | | 5.0 | 5.0 | 7.5 |
| Φd | 0.5 | | | 0.6 | | | 0.8 |
| α | (L <20) 1.5 | | | (L ≥20) 2.0 | | | |
| β | (D <20) 0.5 | | | (D ≥20) 1.0 | | | |

## RIPPLE CURRENT MULTIPLIER

**Frequency Coefficient**

| Coefficient / Freq. (Hz) / Cap (μF) | 120 | 1k | 10k | 100k |
|---|---|---|---|---|
| 3.3~10 | 0.42 | 0.60 | 0.80 | 1.00 |
| 22~33 | 0.55 | 0.75 | 0.90 | 1.00 |
| 47~330 | 0.70 | 0.85 | 0.95 | 1.00 |
| 470~1000 | 0.75 | 0.90 | 0.98 | 1.00 |
| 2200~15000 | 0.80 | 0.95 | 1.00 | 1.00 |

## PART NUMBER SYSTEM (EXAMPLE : 10V 1000μF)

| 1 | 2 3 | 4 5 6 | 7 | 8 9 | 10 | 11 12 | 13 14 |
|---|---|---|---|---|---|---|---|
| E | GY | 108 | M | 1A | G | 16 | RR |

- RR — Type (Radial Bulk)
- 16 — Case Length (16mm)
- G — Diameter (10mm)
- 1A — Voltage (10V)
- M — Tolerance (±20%)
- 108 — Capacitance (1000μF)
- GY — Series
- E — E-CAP

## STANDARD RATINGS

| Voltage (Code) | | 6.3V (0J) | | | 10V (1A) | | | 16V (1C) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cap. (μF) | Code | Case Size | Impedance | Ripple Current | Case Size | Impedance | Ripple Current | Case Size | Impedance | Ripple Current |
| 47 | 476 | | | | | | | 5 x 11 | 0.90 | 150 |
| 100 | 107 | 5 x 11 | 0.90 | 150 | 5 x 11 | 0.90 | 150 | 6.3 x 11 | 0.40 | 250 |
| 220 | 227 | 6.3 x 11 | 0.40 | 250 | 6.3 x 11 | 0.40 | 250 | 8 x 12 | 0.25 | 400 |
| 330 | 337 | 6.3 x 11 | 0.40 | 250 | 8 x 12 | 0.25 | 400 | 8 x 12 | 0.25 | 400 |
| 470 | 477 | 8 x 12 | 0.25 | 400 | 8 x 12 | 0.25 | 400 | 10 x 12.5 | 0.16 | 580 |
| 1000 | 108 | 10 x 12.5 | 0.16 | 580 | 10 x 16 | 0.12 | 770 | 10 x 20 | 0.078 | 1050 |
| 2200 | 228 | 12.5 x 20 | 0.062 | 1300 | 12.5 x 20 | 0.062 | 1300 | 12.5 x 25 | 0.048 | 1650 |
| 3300 | 338 | 12.5 x 20 | 0.062 | 1300 | 12.5 x 25 | 0.048 | 1650 | 16 x 25 | 0.034 | 1850 |
| 4700 | 478 | 16 x 25 | 0.034 | 1850 | 16 x 25 | 0.034 | 1850 | 16 x 30 | 0.029 | 2000 |
| 6800 | 688 | 16 x 25 | 0.034 | 1850 | 16 x 30 | 0.029 | 2000 | 18 x 35 | 0.025 | 2200 |
| 10000 | 109 | 16 x 30 | 0.029 | 2000 | 18 x 35 | 0.025 | 2200 | | | |
| 15000 | 159 | 18 x 35 | 0.025 | 2200 | | | | | | |

Maximum Allowable Ripple Current (mArms) at 105˚C 100kHz
Maximum Impedance (Ω) at 20˚C 100kHz
Case Size ΦD x L (mm)

| Voltage (Code) | | 25V (1E) | | | 35V (1V) | | | 50V (1H) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cap. (μF) | Code | Case Size | Impedance | Ripple Current | Case Size | Impedance | Ripple Current | Case Size | Impedance | Ripple Current |
| 3.3 | 335 | | | | | | | 5 x 11 | 2.2 | 53 |
| 4.7 | 475 | | | | | | | 5 x 11 | 1.9 | 88 |
| 10 | 106 | | | | | | | 5 x 11 | 1.5 | 100 |
| 22 | 226 | | | | | | | 5 x 11 | 0.90 | 150 |
| 33 | 336 | 5 x 11 | 0.90 | 150 | 5 x 11 | 0.90 | 150 | 6.3 x 11 | 0.400 | 250 |
| 47 | 476 | 5 x 11 | 0.90 | 150 | 6.3 x 11 | 0.40 | 250 | 6.3 x 11 | 0.400 | 250 |
| 100 | 107 | 6.3 x 11 | 0.40 | 250 | 8 x 12 | 0.25 | 400 | 8 x 12 | 0.250 | 400 |
| 220 | 227 | 8 x 12 | 0.25 | 400 | 10 x 12.5 | 0.16 | 580 | 10 x 16 | 0.120 | 770 |
| 330 | 337 | 10 x 12.5 | 0.16 | 580 | 10 x 16 | 0.12 | 770 | 10 x 20 | 0.078 | 1050 |
| 470 | 477 | 10 x16 | 0.12 | 770 | 10 x 20 | 0.078 | 1050 | 12.5 x 20 | 0.062 | 1300 |
| 1000 | 108 | 12.5 x 20 | 0.062 | 1300 | 12.5 x 25 | 0.048 | 1650 | 16 x 25 | 0.034 | 1850 |
| 2200 | 228 | 16 x 25 | 0.034 | 1850 | 16 x 30 | 0.029 | 2000 | 18 x 35 | 0.025 | 2200 |
| 3300 | 338 | 16 x 30 | 0.029 | 2000 | 18 x 35 | 0.025 | 2200 | | | |
| 4700 | 478 | 18 x 35 | 0.025 | 2200 | | | | | | |

Maximum Allowable Ripple Current (mArms) at 105˚C 100kHz
Maximum Impedance (Ω) at 20˚C 100kHz
Case Size ΦD x L (mm)

| Voltage (Code) | | 63V (1J) | | | 100V (2A) | | |
|---|---|---|---|---|---|---|---|
| Cap. (μF) | Code | Case Size | Impedance | Ripple Current | Case Size | Impedance | Ripple Current |
| 22 | 226 | 6.3 x 11 | 1.3 | 140 | 8 x 12 | 0.63 | 160 |
| 33 | 336 | 6.3 x 11 | 1.2 | 140 | 10 x 12.5 | 0.43 | 230 |
| 47 | 476 | 8 x 12 | 0.63 | 210 | 10 x 16 | 0.31 | 290 |
| 100 | 107 | 10 x 12.5 | 0.43 | 300 | 12.5 x 20 | 0.16 | 430 |
| 220 | 227 | 10 x 20 | 0.21 | 520 | 16 x 25 | 0.073 | 900 |
| 330 | 337 | 12.5 x 20 | 0.16 | 660 | 16 x 25 | 0.073 | 900 |
| 470 | 477 | 12.5 x 25 | 0.12 | 750 | | | |
| 1000 | 108 | 16 x 30 | 0.054 | 1390 | | | |

Maximum Allowable Ripple Current (mArms) at 105˚C 100kHz
Maximum Impedance (Ω) at 20˚C 100kHz
Case Size ΦD x L (mm)