



Aluminum Electrolytic Capacitors

GA Series

Features

- 85°C Standard Axial series for general purpose
- RoHS Compliance



Specification

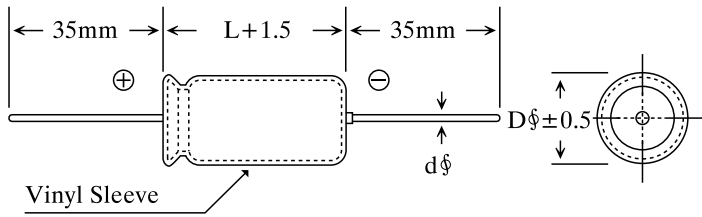
| Items | Performance | | | | | | | | |
|---|--|---------|------|------|------|--------|------|------|--|
| Capacitance Tolerance | ±20% (at 120Hz, 20°C) | | | | | | | | |
| Rated Voltage Range | 10 to 100 VDC | | | | | | | | |
| Capacitance Range | 1 to 4700 µF | | | | | | | | |
| Operating Temperature Range | -40 to + 85°C | | | | | | | | |
| Leakage Current (at 20°C) | $I \leq 0.01 CV$ or $3 (\mu A)$, whichever is greater. After 2 minutes application of working voltage. I = Leakage current (μA), C = Rated capacitance (μF), V = Rated voltage (V) | | | | | | | | |
| Dissipation Factor (Tan δ at 120Hz, 20°C) | Rated Voltage | 10 | 16 | 25 | 35 | 50 | 63 | 100 | |
| | Tan δ (max) | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.10 | |
| For capacitance > 1000 µF, add 0.02 per 1000 µF increase. | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | Impedance ratio max. | | | | | | | | |
| | Rated Voltage | 10 | 16 | 25 | 35 | 50 | 63 | 100 | |
| | Z-25°C/Z+20°C | 3 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Z-40°C/Z+20°C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | | |
| Load Life | After 1000 hours application of W.V. at 85°C, the capacitor shall meet the following limits. Capacitance change : $\leq \pm 25\%$ of initial value Dissipation factor : $\leq 200\%$ of initial specified value Leakage Current : \leq Initial specified value | | | | | | | | |
| Shelf Life | After storage for 500 hours at 85°C, with no voltage applied and being stabilized at + 20°C, Capacitor shall meet the limit specified in load life. | | | | | | | | |
| Ripple Current & Frequency Multiplier | Freq.(Hz) \ Cap.(µF) | 60 (50) | 120 | 500 | 1K | 10K up | | | |
| | Under 100 | 0.75 | 1.00 | 1.20 | 1.40 | 1.50 | | | |
| | 100 to 1000 | 0.75 | 1.00 | 1.10 | 1.20 | 1.30 | | | |
| | 1000 up above | 0.80 | 1.00 | 1.05 | 1.12 | 1.15 | | | |
| Ripple Current & Temperature Multiplier | Temperature(°C) | 70 | | | 85 | | | | |
| | Multiplier | 1.40 | | | 1.00 | | | | |



Aluminum Electrolytic Capacitors

GA Series

DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER Unit: mm

| | | |
|---|----------|---------|
| D | 6.3 - 13 | 16 - 25 |
| d | 0.6 | 0.8 |

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension : $\varnothing D \times L$ (mm)

Ripple Current : mA/rms at 120Hz, 85°C

| μF \ VDC | 10V | | 16V | | 25V | | 35V | | 50V | | 63V | | 100V | |
|---------------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|-----|
| | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA | $\varnothing D \times L$ | mA |
| 1 | | | | | | | | | 6x13 | 6 | 6x13 | 7 | 6x13 | 10 |
| 2.2 | | | | | | | | | 6x13 | 15 | 6x13 | 17 | 6x13 | 20 |
| 3.3 | | | | | | | | | 6x13 | 25 | 6x13 | 28 | 6x13 | 34 |
| 4.7 | | | | | | | | | 6x13 | 35 | 6x13 | 38 | 6x13 | 40 |
| 10 | | | | | | | | | 6x13 | 52 | 6x13 | 55 | 8x16 | 78 |
| 22 | | | | | | | | | 6x13 | 82 | 6x13 | 93 | 8x16 | 105 |
| 33 | | | | | 6x13 | 75 | 6x13 | 90 | 8x16 | 105 | 8x16 | 110 | 8x21 | 115 |
| 47 | | | | | 6x13 | 92 | 6x13 | 105 | 8x16 | 135 | 8x16 | 158 | 10x21 | 190 |
| 100 | | | 6x13 | 148 | 8x13 | 175 | 8x16 | 200 | 8x16 | 223 | 10x21 | 260 | 13x21 | 340 |
| 220 | | | 8x16 | 278 | 8x16 | 297 | 10x16 | 362 | 10x21 | 420 | 13x22 | 471 | 16x28 | 570 |
| 330 | 8x16 | 317 | 8x16 | 340 | 10x21 | 415 | 10x21 | 464 | 13x22 | 552 | 13x27 | 618 | | |
| 470 | 8x16 | 370 | 8x16 | 410 | 10x21 | 485 | 10x21 | 560 | 13x27 | 690 | 13x27 | 729 | | |
| 1000 | 10x21 | 590 | 10x21 | 680 | 13x22 | 740 | 13x27 | 839 | 16x32 | 974 | 16x36 | 1112 | | |
| 2200 | 13x22 | 910 | 13x22 | 980 | 16x28 | 1134 | 16x32 | 1152 | 18x36 | 1399 | 22x42 | 1544 | | |
| 3300 | 13x27 | 1050 | 16x28 | 1254 | 16x32 | 1411 | 18x36 | 1640 | 20x36 | 1810 | 22x42 | 1882 | | |
| 4700 | 16x28 | 1250 | 16x32 | 1451 | 18x36 | 1581 | 20x36 | 1918 | 22x41 | 2047 | 25x43 | 2530 | | |