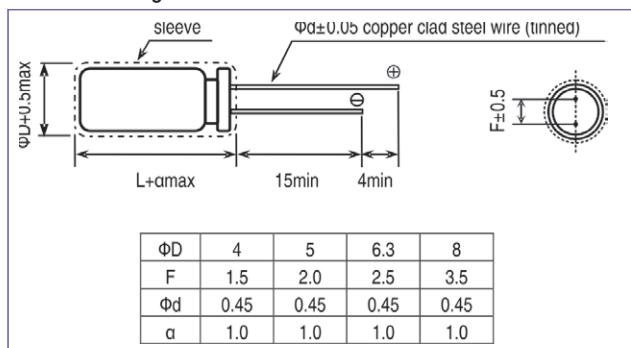


KCL Miniature Aluminum Electrolytic Capacitors

5mm L, Standard Capacitors, Low Leakage current, 85°C , Series KCL.

Diameters from $\Phi 4$ to $\Phi 8$ and a height of 5mm

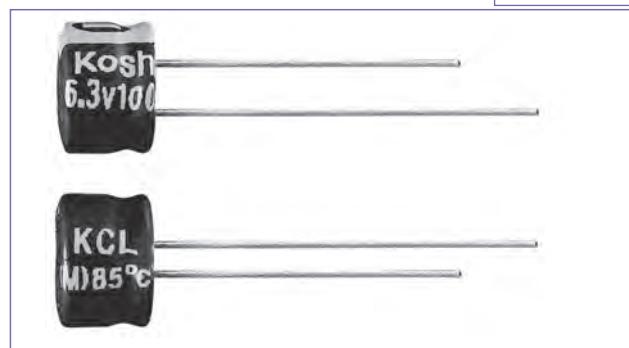
Outline Drawing



Unit: mm

Photo

RoHS



Marking color: white print on purple sleeve

Specifications

| No. | Item | Performance | | | | | | | | |
|-----|--|---|---|------|------|------|------|------|-------|--|
| 1 | Temperature range (°C) | -40 to +85 | | | | | | | | |
| 2 | Leakage current (μA) | Less than $0.002CV$ or 0.4 whichever is larger (after two minutes) C: Rated Capacitance (μF); V: Rated voltage (V) 20°C | | | | | | | | |
| 3 | Capacitance tolerance (%) | ± 20 (20°C, 120Hz) | | | | | | | | |
| 4 | Tangent of the loss angle (Tan δ) | Rated voltage (V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | | Tan δ (max) | 0.35 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | |
| 5 | Low temperature characteristics | Rated voltage (V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | | Impedance ratio (max) $Z_{(-25°C)} / Z_{(+20°C)}$ | 7 | 4 | 3 | 2 | 2 | 2 | 120Hz | |
| | | $Z_{(-40°C)} / Z_{(+20°C)}$ | 15 | 8 | 6 | 4 | 4 | 3 | | |
| 6 | Endurance (85°C) (Applied ripple current) | Test time | 1000hours | | | | | | | |
| | | Leakage current | The initial specified value or less | | | | | | | |
| | | Percentage of capacitance change | Within $\pm 20\%$ of initial value | | | | | | | |
| | | Tangent of the loss angle | 200% or less of the initial specified value | | | | | | | |
| 7 | Shelf life (85°C) | Test time | 500hours | | | | | | | |
| | | Leakage current | The initial specified value or less | | | | | | | |
| | | Percentage of capacitance change | Within $\pm 20\%$ of initial value | | | | | | | |
| | | Tangent of the loss angle | 200% or less of the initial specified value | | | | | | | |
| 8 | Applicable standards | JIS-C-5102 and JIS-C-5141 | | | | | | | | |

Coefficient of Frequency for Ripple Current

| Capacitance (μF) | Frequency (Hz) | 50 • 60 | 120 | 1K | 10K ~ |
|-------------------------|----------------|---------|------|------|-------|
| CAP $\leqslant 47$ | | 0.80 | 1.00 | 1.30 | 1.50 |
| 47 < CAP | | 0.80 | 1.00 | 1.15 | 1.20 |

Coefficient of Temperature for Ripple Current

| Temperature(°C) | 45 | 50 | 70 | 85 |
|-----------------|------|------|------|------|
| Coefficient | 1.80 | 1.50 | 1.30 | 1.00 |

KCL Miniature Aluminum Electrolytic Capacitors

Dimension: Φ D×L(mm)

Ripple Current: mA/rms at 120Hz, 85°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

| V.DC Contents μ F | 4V | | 6.3V | | 10V | | 16V | | 25V | | 35V | | 50V | | |
|-----------------------------|------------|----|------------|----|------------|----|------------|----|------------|-----|------------|-----|------------|-----|-----|
| | Φ D×L | mA | Φ D×L | mA | Φ D×L | mA | |
| 0.1 | | | | | | | | | | | | | | 4X5 | 1.0 |
| 0.22 | | | | | | | | | | | | | | 4X5 | 2.0 |
| 0.33 | | | | | | | | | | | | | | 4X5 | 2.8 |
| 0.47 | | | | | | | | | | | | | | 4X5 | 4.0 |
| 1 | | | | | | | | | | | | | | 4X5 | 8.4 |
| 2.2 | | | | | | | | | | | | | | 4X5 | 13 |
| 3.3 | | | | | | | | | | | | | | 5X5 | 17 |
| 4.7 | | | | | | | | | | 4X5 | 16 | 4X5 | 18 | 5X5 | 20 |
| 10 | | | | | | | 4X5 | 25 | 5X5 | 27 | 5X5 | 29 | 6.3X5 | 33 | |
| 22 | | | 4X5 | 28 | 4X5 | 32 | 5X5 | 37 | 6.3X5 | 42 | 6.3X5 | 46 | 8X5 | 60 | |
| 33 | 5X5 | 28 | 5X5 | 37 | 5X5 | 41 | 6.3X5 | 49 | 6.3X5 | 52 | | | | | |
| 47 | 5X5 | 33 | 5X5 | 45 | 6.3X5 | 52 | 6.3X5 | 58 | | | | | | | |
| 100 | 6.3X5 | 56 | 6.3X5 | 70 | | | | | | | | | | | |