

RK Series 105°C

Features

General capacitors

Applications

- ◆ Frequency converters
- ◆ Professional power supplies
- ◆ Uninterruptible power supplies

Features

- ◆ Wide temperature range
- ◆ All-welded construction ensures reliable electrical contact
- ◆ Self-extinguishing electrolyte
- ◆ RoHS-compatible

Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Poles with screw terminal connections
- ◆ Mounting with ring clips, clamps or threaded stud

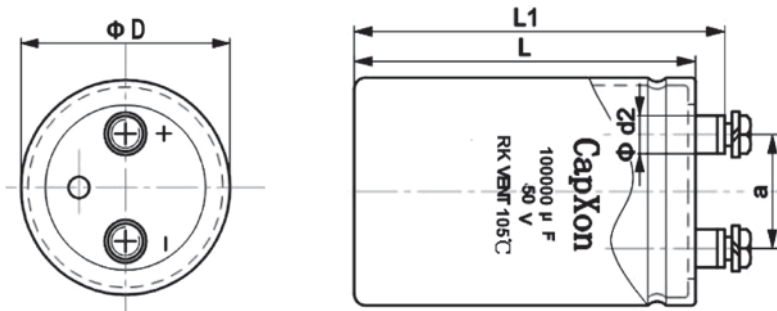


Specifications

| Item | Performance Characteristics | | | | | |
|--|--|---|----|------|------|-----|
| Rated voltage V_R | 16... 100 V DC | | | | | |
| Surge voltage V_S | 1.15 V_R (for $V_R \leq 315$ V) or 1.10 V_R (for $V_R > 315$ V) | | | | | |
| Rated capacitance C_R | 1500 ... 1000000 μ F | | | | | |
| Capacitance tolerance | $\pm 20\%$ | | | | | |
| $\tan \delta$ (at 20°C · 120Hz) | Less than the value under table(%) | | | | | |
| | ΦD | 35 | 51 | 63.5 | 76.2 | 89 |
| | WV | | | | | |
| | 16 | 60 | 70 | 80 | 120 | 140 |
| | 25 | 40 | 50 | 70 | 80 | 100 |
| | 35 | 30 | 50 | 60 | 70 | 90 |
| | 50 | 25 | 30 | 50 | 60 | 80 |
| | 63 | 20 | 25 | 30 | 40 | 60 |
| 80 | 20 | 20 | 25 | 30 | 50 | |
| 100 | 15 | 20 | 25 | 30 | 30 | |
| Leakage Current I_{leak} (20 °C, 5 min) | $I_{leak} \leq 0.3\mu A * (C*V)^{0.7} + 4\mu A$ | | | | | |
| Endurance test 105 °C; V_R | 2000 h | Requirements: $\Delta C/C \leq \pm 20\%$ of initial value ESR ≤ 2 times initial specified limit $I_{leak} \leq$ initial specified limit | | | | |
| Vibration Resistance test | To IEC 60068-2-6, test Fc: Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3X2 h. Capacitor mounted by its body which is rigidly clamped to the work surface. | | | | | |
| Low Temperature Characteristics | Max. impedance ratio at 120 Hz | | | | | |
| | $Z_{-25^\circ C} / Z_{20^\circ C}$ | 3 | | | | |
| | $Z_{-40^\circ C} / Z_{20^\circ C}$ | 12 | | | | |
| Sectional specification | IEC 60384-4 and JIS-C-5101 | | | | | |

Dimensional drawings

Ring clip/clamp mounting:



M5: Min. reach of screw = 8mm
M6: Min. reach of screw = 12mm

Dimensions

| Terminal | Dimensions(mm) with insulating sleeve | | | | |
|----------|---------------------------------------|-----------|-------------|-------------------|-------------|
| | $D \pm 2$ | $L \pm 3$ | $L_1 \pm 3$ | $d_2 \text{max.}$ | $a \pm 0.5$ |
| M5 | 35 | 50~120 | 56.5~126.5 | 10.3 | 12.7 |
| M5 | 51 | 80~140 | 86.5~146.5 | 10.3 | 22 |
| M5 | 63.5 | 80~140 | 86.5~146.5 | 10.3 | 28.6 |
| M5 | 76.2/89 | 100~240 | 106.4~246.5 | 10.3 | 31.8 |
| M6 | 76.2/89 | 100~240 | 106.4~246.5 | 17.5 | 31.8 |

Packing

| Diameter D(mm) | Length L(mm) | Packing (pcs.) |
|----------------|--------------------|----------------|
| 35 | $\leq 70\text{mm}$ | 120 |
| | $> 70\text{mm}$ | 60 |
| 42 | $\leq 70\text{mm}$ | 120 |
| | $> 70\text{mm}$ | 60 |
| 51 | $\leq 70\text{mm}$ | 70 |
| | $> 70\text{mm}$ | 35 |
| 63.5 | all | 24 |
| 76.2 | all | 15 |
| 89 | all | 12 |
| 100 | all | 6 |

Accessories

The following items are included in the delivery package, but are not fastened to the capacitors.

| | Thread | Maximum torque |
|--------------|--------|----------------|
| For terminal | M5 | 2 Nm |
| | M6 | 2.5 Nm |

Case Size

| WV(V) Cap(μF) | | 16 | | 25 | | 35 | | 50 | | φ DxL(mm) |
|------------------|----------|------|----------|-------|----------|-------|----------|-------|--------|-----------|
| | | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | |
| 6800 | | | | | | | | 35x50 | 3.1 | |
| 10000 | | | | | | 35x60 | 3.5 | 35x60 | 4.0 | |
| 15000 | | | | 35x50 | 5.3 | 35x80 | 4.8 | 35x80 | 5.5 | |
| 22000 | 35x60 | 4.9 | 35x60 | 6.5 | 35x100 | 8.8 | 35x120 | 10.0 | 10.0 | |
| 33000 | 35x80 | 6.7 | 35x80 | 8.8 | 35x120 | 11.0 | 51x80 | 13.0 | 13.0 | |
| 47000 | 35x100 | 8.8 | 35x105 | 11.0 | 51x80 | 12.0 | 51x100 | 14.0 | 15.8 | 16.5 |
| 68000 | 51x80 | 9.5 | 35x120 | 11.7 | 51x100 | 14.0 | 51x120 | 16.5 | 18.0 | |
| 100000 | 51x100 | 12.5 | 51x80 | 13.0 | 51x120 | 16.5 | 63.5x100 | 20.0 | 23.0 | |
| 150000 | 51x120 | 15.5 | 51x100 | 14.3 | 51x105 | 15.0 | 63.5x120 | 23.0 | 25.0 | |
| 220000 | 51x140 | 17.6 | 51x120 | 16.0 | 51x120 | 16.0 | 76.2x120 | 27.0 | 30.0 | |
| 330000 | 63.5x120 | 18.0 | 63.5x105 | 18.0 | 63.5x120 | 19.0 | 76.2x160 | 27.5 | 35.0 | |
| 470000 | 76.2x120 | 19.1 | 63.5x120 | 19.0 | 76.2x105 | 20.0 | 89X140 | 30.0 | | |
| 680000 | 89X140 | 26.0 | 76.2x120 | 21.2 | 76.2x145 | 24.0 | 89X160 | 35.0 | | |
| 1000000 | 89X220 | 28.5 | 76.2x160 | 25.0 | 89X140 | 26.0 | 89X220 | | | |

Ripple Current(A rms) at 105°C /120Hz

| WV(V) Cap(μF) | | 63 | | 80 | | 100 | |
|------------------|----------|------|--------|----------|--------|----------|--------|
| | | Size | Ripple | Size | Ripple | Size | Ripple |
| 1500 | | | | | | 35x60 | 3.5 |
| 2200 | | | | | | 35x80 | 4.7 |
| 3300 | | | | | | 35x80 | 5.7 |
| 4700 | | | | | | 35x100 | 6.3 |
| 6800 | 35x60 | 5.3 | | 35x60 | 5.3 | 35x100 | 3.8 |
| 10000 | 35x80 | 6.0 | | 35x80 | 7.0 | 35x105 | 7.5 |
| 15000 | 35x105 | 7.2 | | 35x100 | 8.2 | 51x80 | 4.3 |
| 22000 | 35x120 | 8.1 | | 51x80 | 9.0 | 51x100 | 8.7 |
| 33000 | 51x80 | 9.0 | | 51x80 | 10.0 | 51x100 | 9.5 |
| 47000 | 51x105 | 9.5 | | 51x80 | 10.0 | 51x105 | 10.5 |
| 68000 | 51x120 | 10.5 | | 51x80 | 10.0 | 51x140 | 12.5 |
| 100000 | 51x105 | 12.0 | | 51x80 | 10.0 | 63.5x100 | 14.5 |
| 150000 | 63.5x105 | 14.0 | | 51x80 | 10.0 | 63.5x105 | 15.0 |
| 220000 | 63.5x105 | 14.5 | | 51x80 | 10.0 | 63.5x120 | 16.0 |
| 330000 | 63.5x105 | 15.0 | | 51x80 | 10.0 | 76.2x100 | 16.5 |
| 470000 | 63.5x105 | 16.6 | | 51x80 | 10.0 | 76.2x105 | 17.0 |
| 680000 | 63.5x105 | 17.0 | | 51x80 | 10.0 | 76.2x120 | 18.0 |
| 1000000 | 63.5x105 | 17.0 | | 51x80 | 10.0 | 76.2x120 | 18.0 |
| | 63.5x140 | 19.5 | | 51x140 | 16.0 | 76.2x140 | 20.5 |
| | 76.2x105 | 19.0 | | 76.2x100 | 17.0 | 76.2x145 | 21.0 |
| | 76.2x120 | 20.0 | | 76.2x120 | 19.0 | 76.2x145 | 21.0 |
| | 76.2x140 | 22.5 | | 76.2x120 | 19.0 | 76.2x160 | 23.0 |
| | 76.2x145 | 23.0 | | 76.2x120 | 19.0 | 89X140 | 23.5 |
| | 89X160 | 27.0 | | 76.2x140 | 22.0 | 89X160 | 25.5 |
| | 89X230 | 30.0 | | 76.2x140 | 22.0 | 89X160 | 25.5 |
| | 89X230 | 30.0 | | 89X160 | 26.0 | 89X230 | 30.0 |

Ripple Current(A rms) at 105°C /120Hz