

# SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

**RC** Chip type, Wide Temperature Range Series



- Wide operating temperature range of -55 ~ +105°C
- Designed for surface mounting on high density PC board
- Applicable to automatic insertion machine using carrier tape
- Complied to the RoHS directive



| Item  | Characteristics  |                                   |      |      |      |      |      |
|---|--|-----------------------------------|------|------|------|------|------|
| Operating temperature range   | -55 ~ +105°C   |                                   |      |      |      |      |      |
| Leakage current max.  | I = 0.01CV or 3μA whichever is greater (after 2 minutes)   |                                   |      |      |      |      |      |
| Capacitance tolerance   | ±20% at 120Hz, 20°C  |                                   |      |      |      |      |      |
| Dissipation factor max.<br>(at 120Hz, 20°C)                                   | WV   | 6.3                               | 10   | 16   | 25   | 35   | 50   |
|   | tanδ   | 0.27                              | 0.23 | 0.19 | 0.15 | 0.13 | 0.11 |
| Low temperature characteristics<br>(Impedance ratio at 120Hz)                 | WV   | 6.3                               | 10   | 16   | 25   | 35   | 50   |
|   | Z-25°C/Z+20°C  | 3                                 | 3    | 2    | 2    | 2    | 2    |
|   | Z-55°C/Z+20°C  | 8                                 | 5    | 4    | 3    | 3    | 3    |
| Load life<br>(after application of the rated voltage for 1000 hours at 105°C) | Leakage current  | Less than specified value         |      |      |      |      |      |
|   | Capacitance change   | Within ±25% of initial value      |      |      |      |      |      |
|   | tanδ   | Less than 200% of specified value |      |      |      |      |      |
| Shelf life (at 105°C)   | After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4 |                                   |      |      |      |      |      |
| Resistance to soldering heat  | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 10 seconds.                                  |                                   |      |      |      |      |      |
|   | Leakage current  | Less than specified value         |      |      |      |      |      |
|   | Capacitance change   | Within ±10% of initial value      |      |      |      |      |      |
|   | tanδ   | Less than specified value         |      |      |      |      |      |

● DRAWING (See page 62)

-Series code of RC is "F"

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| μF \ WV | 6.3     |     | 10      |     | 16      |     | 25      |     | 35      |     | 50      |     |
|---------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
| 1.0     |         |     |         |     |         |     |         |     |         |     | 4×5.3   | 7   |
| 2.2     |         |     |         |     |         |     |         |     |         |     | 4×5.3   | 11  |
| 3.3     |         |     |         |     |         |     |         |     |         |     | 4×5.3   | 13  |
| 4.7     |         |     |         |     |         |     | 4×5.3   | 13  | 4×5.3   | 14  | 5×5.3   | 18  |
| 10      |         |     |         |     | 4×5.3   | 17  | 5×5.3   | 23  | 5×5.3   | 24  | 6.3×5.3 | 31  |
| 22      | 4×5.3   | 22  | 5×5.3   | 27  | 5×5.3   | 30  | 6.3×5.3 | 39  | 6.3×5.3 | 42  | 6.3×5.8 | 45  |
| 33      | 5×5.3   | 31  | 5×5.3   | 33  | 6.3×5.3 | 43  | 6.3×5.3 | 48  | 6.3×5.8 | 52  | 6.3×7.7 | 60  |
| 47      | 5×5.3   | 36  | 6.3×5.3 | 46  | 6.3×5.3 | 51  | 6.3×5.8 | 59  | 6.3×5.8 | 63  | 6.3×7.7 | 63  |
| 100     | 6.3×5.3 | 50  | 6.3×5.8 | 64  | 6.3×5.8 | 64  | 6.3×7.7 | 91  | 8×10    | 296 | 10×10   | 295 |
| 220     | 6.3×7.7 | 86  | 6.3×7.7 | 105 | 6.3×7.7 | 105 | 8×10    | 340 | 10×10   | 435 |         |     |
| 330     | 6.3×7.7 | 105 | 8×10    | 305 | 8×10    | 340 | 10×10   | 360 |         |     |         |     |
| 470     | 8×10    | 330 | 10×10   | 340 | 10×10   | 470 |         |     |         |     |         |     |
| 1000    | 10×10   | 475 |         |     |         |     |         |     |         |     |         |     |

↑ ↑ Ripple current (mA rms) at 105°C, 120Hz  
Case size ØD×L (mm)

● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

| Frequency   | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz ≤ |
|-------------|------|-------|-------|------|---------|
| Coefficient | 0.70 | 1.00  | 1.17  | 1.36 | 1.50    |