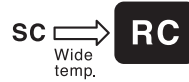


## RC Chip type, Wide Temperature Range Series

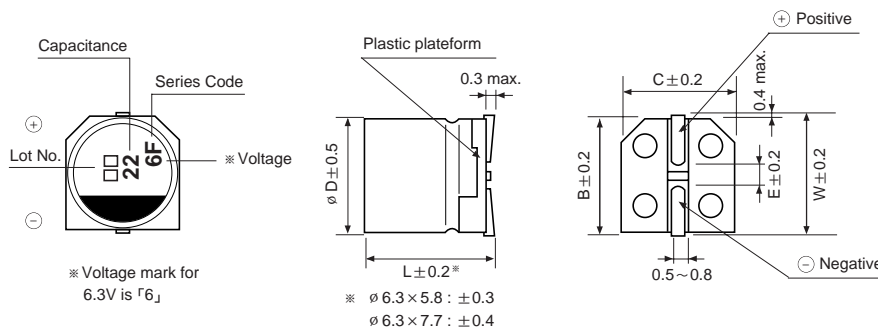
- Wide operating temperature range of -55 ~ +105°C
- Designed for surface mounting on high density PC board
- Applicable to automatic insertion machine using carrier tape
- Complied to the RoHS directive



| 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-40°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.                                     |                                   |      |      |      |      |      |
| 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 30 seconds. |                                   |      |      |      |      |      |
|   | Leakage current   | Less than specified value         |      |      |      |      |      |
|   | Capacitance change  | Within ±10% of initial value      |      |      |      |      |      |
|   | tanδ  | Less than specified value         |      |      |      |      |      |

### DRAWING

Unit : mm



| ∅ D | W   | B   | C   | E   |
|-----|-----|-----|-----|-----|
| 4   | 4.8 | 4.3 | 4.3 | 1.0 |
| 5   | 6.0 | 5.3 | 5.3 | 1.4 |
| 6.3 | 7.1 | 6.6 | 6.6 | 2.2 |

\* ∅ 8, 10 Drawing See Page 35

### DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| μF   | WV        | 6.3 | 10            | 16            | 25           | 35           | 50             |
|------|-----------|-----|---------------|---------------|--------------|--------------|----------------|
| 0.1  |           |     |               |               |              |              | 4 × 5.3 2.3    |
| 0.22 |           |     |               |               |              |              | 4 × 5.3 3.4    |
| 0.33 |           |     |               |               |              |              | 4 × 5.3 4.1    |
| 0.47 |           |     |               |               |              |              | 4 × 5.3 4.9    |
| 1.0  |           |     |               |               |              |              | 4 × 5.3 7.2    |
| 2.2  |           |     |               |               |              |              | 4 × 5.3 10.7   |
| 3.3  |           |     |               |               |              |              | 4 × 5.3 13.1   |
| 4.7  |           |     |               |               | 4 × 5.3 13   | 4 × 5.3 14   | 5 × 5.3 18.1   |
| 10   |           |     |               | 4 × 5.3 17    | 5 × 5.3 23   | 5 × 5.3 24   | 6.3 × 5.3 30.8 |
| 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 × 10 425    | 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 ∅ D × L (mm)