

Chip Type, 105°C Use, Low ESR, High CV Capacitors

GREEN CAP

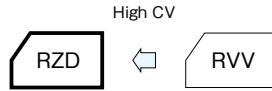
SMD

Low ESR

105°C
2000hours

Anti-cleaning solvent

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guaranteed 2000 hours at 105°C.



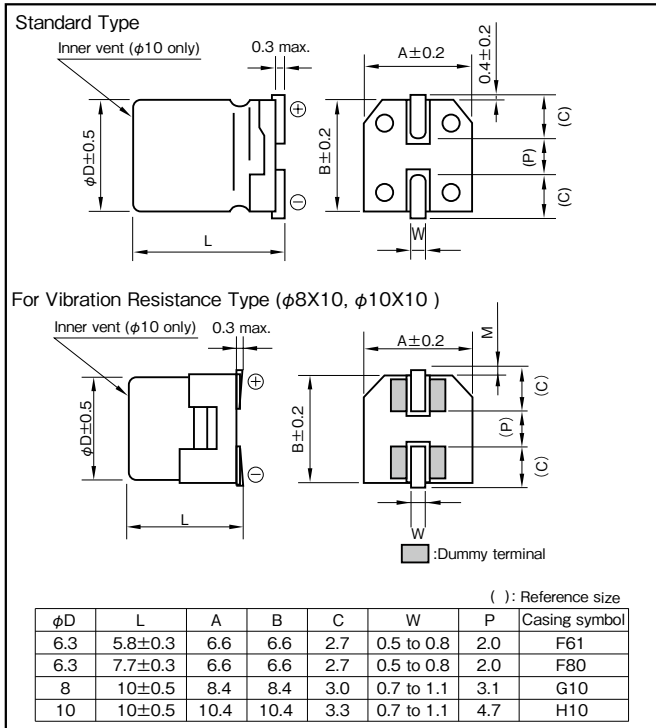
Marking color : Black print

Specifications

| Item | Performance | | | | | | | | | |
|---|---|---|------|------|------|------|------|------|------|---|
| Category temperature range (°C) | -55 to +105 | | | | | | | | | |
| Tolerance at rated capacitance (%) | ±20 (20°C, 120Hz) | | | | | | | | | |
| Leakage current (µA) | Less than 0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance (µF) , V : Rated voltage (V) (20°C) | | | | | | | | | |
| Tangent of loss angle (tanδ) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | |
| | tanδ (max.) | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.08 | |
| 0.02 is added to every 1000µF increase over 1000µF. (20°C, 120Hz) | | | | | | | | | | |
| Characteristics at high and low temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | |
| | Impedance ratio (max.) | Z-25°C/Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | Z-40°C/Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Z-55°C/Z+20°C | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | | |
| (120Hz) | | | | | | | | | | |
| Endurance (105°C) | Test time | 2000 hours | | | | | | | | |
| | Leakage current | The initial specified value or less | | | | | | | | |
| | Percentage of capacitance change | Within ±30% of initial value | | | | | | | | |
| | Tangent of the loss angle | 200% or less of the initial specified value | | | | | | | | |
| Shelf life (105°C) | Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 | | | | | | | | | |
| Applicable standards | JIS C 5101-1 1998, -18 1999(IEC 60384-1 1992, -18 1993) | | | | | | | | | |

Outline Drawing

Unit : mm



Coefficient of Frequency for Rated Ripple Current

| Frequency (Hz) | 50 · 60 | 120 | 1k | 10k · 100k |
|-------------------|---------|------|------|------------|
| Rated voltage (V) | 50 · 60 | 120 | 1k | 10k · 100k |
| 6.3 to 80 | 0.50 | 0.50 | 0.75 | 1 |

Part numbering system

Standard Type (example : 35V150µF)

| | | | | | | | | |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---------------|
| RZD | — | 35 | V | 151 | M | F80 | U | □ |
| Series code | | Rated voltage symbol | | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol | | Taping symbol |

For Vibration Resistance Type (example : 25V820µF)

| | | | | | | | | |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---------------|
| RMD | — | 25 | V | 821 | M | H10 | U | □ |
| Series code | | Rated voltage symbol | | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol | | Taping symbol |

- Soldering conditions are described on page 15.
- Land pattern size are described on page 13.
- The taping specifications are described on page 16.

Standard Ratings

| Rated voltage (V) Item Rated capacitance (μF) | 6.3 | | | | 10 | | | | 16 | | | |
|---|-------------|---------------|----------|----------------------|-------------|---------------|----------|----------------------|-------------|---------------|----------|----------------------|
| | Case | Casing symbol | ESR | Rated ripple current | Case | Casing symbol | ESR | Rated ripple current | Case | Casing symbol | ESR | Rated ripple current |
| | φD × L (mm) | | (Ω max.) | (mArms) | φD × L (mm) | | (Ω max.) | (mArms) | φD × L (mm) | | (Ω max.) | (mArms) |
| 150 | — | — | — | — | — | — | — | — | 6.3 × 5.8 | F61 | 0.26 | 300 |
| 220 | — | — | — | — | 6.3 × 5.8 | F61 | 0.26 | 300 | 6.3 × 5.8 | F61 | 0.26 | 300 |
| 330 | 6.3 × 5.8 | F61 | 0.26 | 300 | 6.3 × 7.7 | F80 | 0.16 | 600 | 6.3 × 7.7 | F80 | 0.16 | 600 |
| 470 | 6.3 × 7.7 | F80 | 0.16 | 600 | 6.3 × 7.7 | F80 | 0.16 | 600 | — | — | — | — |
| 680 | 6.3 × 7.7 | F80 | 0.16 | 600 | — | — | — | — | 8 × 10 | G10 | 0.08 | 850 |
| 1000 | — | — | — | — | 8 × 10 | G10 | 0.08 | 850 | 10 × 10 | H10 | 0.06 | 1190 |
| 1500 | 8 × 10 | G10 | 0.08 | 850 | 10 × 10 | H10 | 0.06 | 1190 | — | — | — | — |
| 2200 | 10 × 10 | H10 | 0.06 | 1190 | — | — | — | — | — | — | — | — |

| Rated voltage (V) Item Rated capacitance (μF) | 25 | | | | 35 | | | | 50 | | | |
|---|-------------|---------------|----------|----------------------|-------------|---------------|----------|----------------------|-------------|---------------|----------|----------------------|
| | Case | Casing symbol | ESR | Rated ripple current | Case | Casing symbol | ESR | Rated ripple current | Case | Casing symbol | ESR | Rated ripple current |
| | φD × L (mm) | | (Ω max.) | (mArms) | φD × L (mm) | | (Ω max.) | (mArms) | φD × L (mm) | | (Ω max.) | (mArms) |
| 47 | — | — | — | — | — | — | — | — | 6.3 × 5.8 | F61 | 0.68 | 195 |
| 100 | — | — | — | — | 6.3 × 5.8 | F61 | 0.26 | 300 | 6.3 × 7.7 | F80 | 0.34 | 350 |
| 150 | 6.3 × 5.8 | F61 | 0.26 | 300 | 6.3 × 7.7 | F80 | 0.16 | 600 | — | — | — | — |
| 220 | 6.3 × 7.7 | F80 | 0.16 | 600 | — | — | — | — | 8 × 10 | G10 | 0.18 | 670 |
| 330 | — | — | — | — | 8 × 10 | G10 | 0.08 | 850 | 10 × 10 | H10 | 0.12 | 900 |
| 470 | 8 × 10 | G10 | 0.08 | 850 | — | — | — | — | — | — | — | — |
| 560 | — | — | — | — | 10 × 10 | H10 | 0.06 | 1190 | — | — | — | — |
| 820 | 10 × 10 | H10 | 0.06 | 1190 | — | — | — | — | — | — | — | — |

| Rated voltage (V) Item Rated capacitance (μF) | 63 | | | | 80 | | | |
|---|-------------|---------------|----------|----------------------|-------------|---------------|----------|----------------------|
| | Case | Casing symbol | ESR | Rated ripple current | Case | Casing symbol | ESR | Rated ripple current |
| | φD × L (mm) | | (Ω max.) | (mArms) | φD × L (mm) | | (Ω max.) | (mArms) |
| 22 | 6.3 × 7.7 | F80 | 0.85 | 85 | — | — | — | — |
| 33 | 6.3 × 7.7 | F80 | 0.85 | 145 | — | — | — | — |
| 47 | 8 × 10 | G10 | 0.45 | 300 | 8 × 10 | G10 | 0.68 | 150 |
| 68 | 8 × 10 | G10 | 0.45 | 300 | 10 × 10 | H10 | 0.45 | 215 |
| 100 | 8 × 10 | G10 | 0.45 | 300 | — | — | — | — |
| 150 | 10 × 10 | H10 | 0.30 | 430 | — | — | — | — |

(Note) Rated ripple current : 105°C , 100kHz
ESR : 20°C , 100kHz