

Chip Type, 105°C Use, Low Impedance, Long Life Capacitors

GREEN CAP

SMD

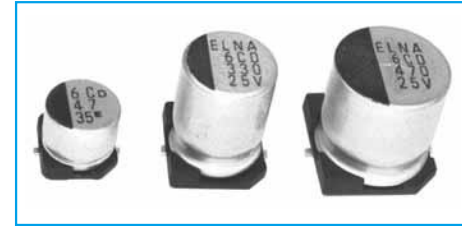
Low Z

105°C
2000hours

Anti-cleaning solvent

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guarantees 2000 hours at 105°C.
(6.3 to 50V 10.0L,10.5L:5000 hours)
(φ12.5x13.5L: 5000 hours)

Low Z, Long life



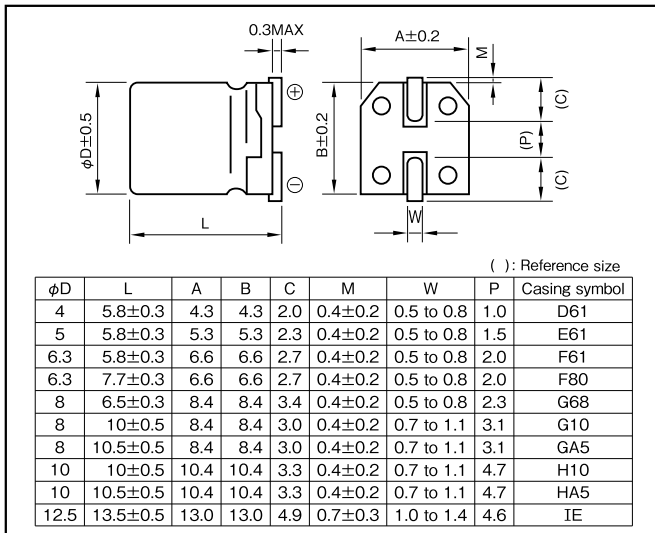
Marking color : Black print

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 | 100 | |
| | tanδ (max.) | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.08 | 0.07 | |
| Characteristics at high and low temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | |
| | Impedance ratio (max.) | Z-25°C/Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | Z-40°C/Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | Z-55°C/Z+20°C | 8 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Endurance (105°C) | Test time | 2000 hours (6.3 to 50V 10.0L,10.5L,φ12.5x13.5L : 5000 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 (6.3 to 50V 10.0L,10.5L,φ12.5x13.5L : 300% or less) | | | | | | | | | |
| Shelf life (105°C) | Test time : 1000 hours ; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101-1 | | | | | | | | | | |
| Applicable standards | JIS C 5101-1 1998, -18 1999(IEC 60384-1 1992, -18 1993) | | | | | | | | | | |

Outline Drawing

Unit : mm



- Soldering conditions are described on page 13.
- Land pattern size are described on page 11.
- The taping specifications are described on page 14.

Coefficient of Frequency for Rated Ripple Current

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

Part numbering system

φ10X10.5L or less (16V100μF)

| | | | | | | | | | |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---|---------------|
| RVD | — | 16 | V | 101 | M | F61 | U | — | □ |
| Series code | | Rated voltage symbol | | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol | | | Taping symbol |

In the case of "for High Temperature Reflow" type, a series name is "RZB".

φ12.5X13.5 (16V1000μF)

| | | | | | | | | | |
|-------------|---|----------------------|---|--------------------------|------------------------------|---------------|---|---|---------------|
| RVD | — | 16 | V | 102 | M | IE | T | — | R5 |
| Series code | | Rated voltage symbol | | Rated capacitance symbol | Capacitance tolerance symbol | Casing symbol | | | Taping symbol |

Standard Ratings

| Rated voltage (V) | Item | 6.3 | | | | 10 | | | | 16 | | | |
|-------------------|-----------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|
| | | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current |
| | | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) |
| 10 | — | — | — | — | — | — | — | — | — | 4×5.8 | D61 | 1.35 | 90 |
| 22 | 4×5.8 | D61 | 1.35 | 90 | 4×5.8 | D61 | 1.35 | 90 | 4×5.8 | D61 | 1.35 | 90 | |
| 33 | — | — | — | — | 4×5.8 | D61 | 1.35 | 90 | 5×5.8 | E61 | 0.70 | 170 | |
| | | | | | 5×5.8 | E61 | 0.70 | 170 | — | — | — | — | |
| 47 | 4×5.8 | D61 | 1.35 | 90 | — | — | — | — | 5×5.8 | E61 | 0.70 | 170 | |
| | 5×5.8 | E61 | 0.70 | 170 | — | — | — | — | 6.3×5.8 | F61 | 0.36 | 250 | |
| 100 | 5×5.8 | E61 | 0.70 | 170 | — | — | — | — | 6.3×5.8 | F61 | 0.36 | 250 | |
| | 6.3×5.8 | F61 | 0.36 | 250 | — | — | — | — | — | — | — | — | |
| 220 | 6.3×5.8 | F61 | 0.36 | 250 | 6.3×7.7 | F80 | 0.30 | 300 | 6.3×7.7 | F80 | 0.30 | 300 | |
| | | | | | 8×6.5 | G68 | 0.30 | 300 | 8×6.5 | G68 | 0.30 | 300 | |
| 330 | 6.3×7.7 | F80 | 0.30 | 300 | 8×10 | G10 | 0.16 | 600 | 8×10 | G10 | 0.16 | 600 | |
| | 8×6.5 | G68 | 0.30 | 300 | — | — | — | — | — | — | — | — | |
| 470 | 8×10 | G10 | 0.16 | 600 | 8×10 | G10 | 0.16 | 600 | 8×10 | G10 | 0.16 | 600 | |
| 680 | — | — | — | — | 8×10 | G10 | 0.16 | 600 | 10×10 | H10 | 0.09 | 850 | |
| | | | | | | | | | 10×10.5 | HA5 | 0.08 | 850 | |
| 1000 | 8×10 | G10 | 0.16 | 600 | 10×10 | H10 | 0.09 | 850 | 12.5×13.5 | IE | 0.054 | 1160 | |
| | | | | | 10×10.5 | HA5 | 0.08 | 850 | — | — | — | — | |
| 1500 | 10×10 | H10 | 0.09 | 850 | 12.5×13.5 | IE | 0.054 | 1160 | 12.5×13.5 | IE | 0.054 | 1160 | |
| | 10×10.5 | HA5 | 0.08 | 850 | — | — | — | — | — | — | — | — | |
| 2200 | 12.5×13.5 | IE | 0.054 | 1160 | 12.5×13.5 | IE | 0.054 | 1160 | — | — | — | — | |

| Rated voltage (V) | Item | 25 | | | | 35 | | | | 50 | | | |
|-------------------|-----------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|
| | | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current |
| | | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) |
| 4.7 | — | — | — | — | 4×5.8 | D61 | 1.35 | 90 | 4×5.8 | D61 | 2.7 | 60 | |
| 10 | 4×5.8 | D61 | 1.35 | 90 | 4×5.8 | D61 | 1.35 | 90 | 5×5.8 | E61 | 1.5 | 90 | |
| | | | | | 5×5.8 | E61 | 0.70 | 170 | 6.3×5.8 | F61 | 0.86 | 170 | |
| 22 | 5×5.8 | E61 | 0.70 | 170 | 5×5.8 | E61 | 0.70 | 170 | 6.3×5.8 | F61 | 0.86 | 170 | |
| | | | | | 6.3×5.8 | F61 | 0.36 | 250 | 6.3×7.7 | F80 | 0.66 | 195 | |
| 33 | 5×5.8 | E61 | 0.70 | 170 | 6.3×5.8 | F61 | 0.36 | 250 | 8×6.5 | G68 | 0.63 | 200 | |
| | 6.3×5.8 | F61 | 0.36 | 250 | | | | | 6.3×7.7 | F80 | 0.66 | 195 | |
| 47 | 6.3×5.8 | F61 | 0.36 | 250 | 6.3×5.8 | F61 | 0.36 | 250 | 8×6.5 | G68 | 0.63 | 200 | |
| | | | | | | | | | 8×6.5 | G68 | 0.63 | 200 | |
| 100 | 6.3×7.7 | F80 | 0.30 | 300 | 6.3×7.7 | F80 | 0.30 | 300 | 8×10 | G10 | 0.34 | 350 | |
| | 8×6.5 | G68 | 0.30 | 300 | 8×10 | G10 | 0.16 | 600 | 8×10.5 | GA5 | 0.32 | 350 | |
| 220 | 8×10 | G10 | 0.16 | 600 | 8×10 | G10 | 0.16 | 600 | 10×10 | H10 | 0.20 | 700 | |
| | | | | | | | | | 10×10.5 | HA5 | 0.18 | 700 | |
| 330 | 8×10 | G10 | 0.16 | 600 | 10×10 | H10 | 0.09 | 850 | 12.5×13.5 | IE | 0.12 | 900 | |
| | | | | | 10×10.5 | HA5 | 0.08 | 850 | | | | | |
| 470 | 10×10 | H10 | 0.09 | 850 | 12.5×13.5 | IE | 0.054 | 1160 | — | — | — | — | |
| | 10×10.5 | HA5 | 0.08 | 850 | | | | | — | — | — | — | |
| 680 | 12.5×13.5 | IE | 0.054 | 1160 | 12.5×13.5 | IE | 0.054 | 1160 | — | — | — | — | |
| 1000 | 12.5×13.5 | IE | 0.054 | 1160 | — | — | — | — | — | — | — | — | |

| Rated voltage (V) | Item | 63 | | | | 80 | | | | 100 | | | |
|-------------------|-----------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|-----------|---------------|-----------|----------------------|
| | | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current | Case | Casing symbol | Impedance | Rated ripple current |
| | | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) | φD×L (mm) | | (Ω max.) | (mArms) |
| 4.7 | 5×5.8 | E61 | 3.0 | 50 | — | — | — | — | — | — | — | — | |
| 10 | 6.3×5.8 | F61 | 1.5 | 80 | 6.3×7.7 | F80 | 2.4 | 60 | — | — | — | — | |
| 22 | 6.3×7.7 | F80 | 1.2 | 120 | 8×10 | G10 | 0.90 | 130 | 8×10 | G10 | 1.30 | 130 | |
| 33 | 8×10 | G10 | 0.65 | 250 | 8×10 | G10 | 0.90 | 130 | 10×10 | H10 | 0.70 | 200 | |
| 47 | 8×10 | G10 | 0.65 | 250 | 10×10 | H10 | 0.50 | 200 | — | — | — | — | |
| 68 | 8×10 | G10 | 0.65 | 250 | — | — | — | — | — | — | — | — | |
| 100 | 10×10 | H10 | 0.35 | 400 | 12.5×13.5 | IE | 0.18 | 550 | — | — | — | — | |
| | 12.5×13.5 | IE | 0.16 | 600 | | | | | — | — | — | — | |
| 220 | 12.5×13.5 | IE | 0.16 | 600 | — | — | — | — | — | — | — | — | |

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