

Chip Type Large Capacitance Capacitors

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guarantees 2000 hours at 85°C.



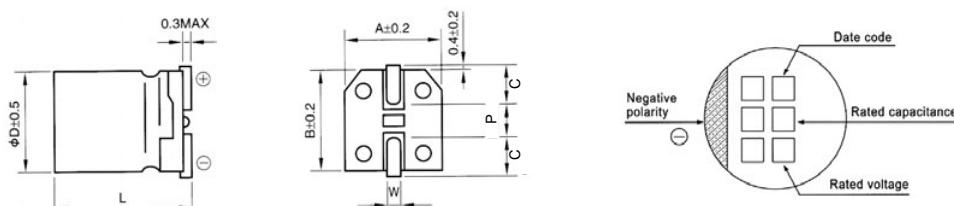
Marking color : Black print ($\phi 3 \times 5.3L - \phi 8 \times 10L$)
White print on a brown sleeve ($\phi 10 \times 10L$)

■ SPECIFICATIONS

| Item | Performance | | | | | | | | |
|---|---|--|------|------|------|------|------|------------|------|
| Category Temperature Range | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | | | | | | | | |
| Capacitance Tolerance | $\pm 20\%$ $(20^{\circ}\text{C}, 120\text{Hz})$ | | | | | | | | |
| 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) | | | | | | | | |
| Dissipation Factor ($\tan\delta$ at 120Hz, 20°C) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | $\tan\delta$ (max.) | 0.35 | 0.32 | 0.28 | 0.18 | 0.14 | 0.12 | 0.12 | 0.12 |
| Low Temperature Characteristics (at 120Hz) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Impedance ratio (max.) | Z- $25^{\circ}\text{C}/Z+20^{\circ}\text{C}$ | 4 | 3 | 2 | 2 | 2 | 2 | 2 |
| | | Z- $40^{\circ}\text{C}/Z+20^{\circ}\text{C}$ | 10 | 8 | 6 | 4 | 3 | 3 | 3 |
| Endurance (85°C) (Applied ripple current) | Test time | 2000 hours ($\phi 3: 1000$ hours) | | | | | | | |
| | Capacitance Change | Within $\pm 30\%$ of initial value | | | | | | | |
| | Dissipation Factor | 200% or less of the initial specified value | | | | | | | |
| | Leakage Current | The initial specified value or less | | | | | | | |
| Shelf life (85°C) | Test time : 1000 hours; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101-1 | | | | | | | | |
| Coefficient of Frequency for Rated Ripple Current | Frequency (Hz) | 50 - 60 | | 120 | | 1k | | 10k · 100k | |
| | Rated voltage (V) | | | | | | | | |
| | 6.3 to 16 | 0.8 | | 1 | | 1.15 | | 1.25 | |
| | 25 to 35 | 0.8 | | 1 | | 1.25 | | 1.40 | |
| | 50 to 63 | 0.8 | | 1 | | 1.35 | | 1.50 | |
| | 100 | 0.7 | | 1 | | 1.35 | | 1.50 | |
| Applicable standards | JIS C5101-1 1998, -18 1999 (IEC 60384-1 1992, -18 1993) | | | | | | | | |

■ OUTLINE DRAWING

Unit : mm



| ϕD | L | A | B | C | W | P | Casing symbol |
|----------|---------------|------|------|-----|--------------|-----|---------------|
| 3 | 5.3 ± 0.2 | 3.3 | 3.3 | 1.5 | 0.45 to 0.75 | 0.8 | B55 |
| 4 | 5.3 ± 0.2 | 4.3 | 4.3 | 2.0 | 0.5 to 0.8 | 1.0 | D55 |
| 5 | 5.3 ± 0.2 | 5.3 | 5.3 | 2.3 | 0.5 to 0.8 | 1.5 | E55 |
| 6.3 | 5.3 ± 0.2 | 6.3 | 6.3 | 2.7 | 0.5 to 0.8 | 2.0 | F55 |
| 6.3 | 7.7 ± 0.3 | 6.6 | 6.6 | 2.7 | 0.5 to 0.8 | 2.0 | F80 |
| 8 | 6.5 ± 0.3 | 8.4 | 8.4 | 3.4 | 0.5 to 0.8 | 2.3 | G68 |
| 8 | 10 ± 0.5 | 8.4 | 8.4 | 3.0 | 0.7 to 1.1 | 3.1 | G10 |
| 10 | 10 ± 0.5 | 10.4 | 10.4 | 3.3 | 0.7 to 1.1 | 4.7 | H10 |

■ STANDARD RATINGS

| Rated voltage (V) | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 100 | |
|--|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|
| Rated capacitance (μF) \ Item | Case | Rated ripple current |
| | $\phi D \times L$ (mm) | mArms |
| 2.2 | — | — | — | — | — | — | — | — | — | — | — | — | 3x5.3 | 7 | — | — |
| 3.3 | — | — | — | — | — | — | — | — | — | — | 3x5.3 | 10 | 4x5.3 | 12 | — | — |
| 4.7 | — | — | — | — | — | — | — | — | 3x5.3 | 13 | 4x5.3 | 18 | 5x5.3 | 20 | — | — |
| 10 | — | — | — | — | 3x5.3 | 18 | 3x5.3 | 16 | 4x5.3 | 24 | 5x5.3 | 30 | 6.3x5.3 | 32 | — | — |
| 22 | 3x5.3 | 21 | 3x5.3 | 20 | — | — | 4x5.3 | 24 | 5x5.3 | 41 | 6.3x5.3 | 47 | 6.3x7.7 | 60 | — | — |
| | | | | | | | | | | | | | 8x6.5 | 62 | | |
| 33 | — | — | — | — | 4x5.3 | 32 | 5x5.3 | 47 | — | — | 8x6.5 | 83 | — | — | 8x10 | 94 |
| 47 | 4x5.3 | 34 | 4x5.3 | 33 | 5x5.3 | 52 | — | — | 6.3x5.3 | 54 | 6.3x7.7 | 85 | 8x10 | 139 | 10x10 | 189 |
| 100 | 5x5.3 | 55 | 5x5.3 | 54 | 6.3x5.3 | 70 | 6.3x7.7 8x6.5 | 120 118 | 6.3x7.7 | 120 | 8x10 | 252 | 10x10 | 226 | — | — |
| 150 | — | — | 6.3x5.3 | 79 | — | — | — | — | — | — | — | — | — | — | — | — |
| 220 | 6.3x5.3 | 88 | 6.3x7.7 8x6.5 | 173 175 | 6.3x7.7 | 162 | — | — | 8x10 | 260 | — | — | — | — | — | — |
| 330 | 6.3x7.7 8x6.5 | 188 190 | — | — | — | — | 8x10 | 300 | 10x10 | 360 | — | — | — | — | — | — |
| 470 | — | — | 8x10 | 310 | 8x10 | 307 | 10x10 | 400 | — | — | — | — | — | — | — | — |
| 680 | — | — | — | — | 10x10 | 380 | — | — | — | — | — | — | — | — | — | — |
| 1000 | — | — | 10x10 | 454 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1500 | 10x10 | 489 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(Note) Rated ripple current : 85°C, 120Hz