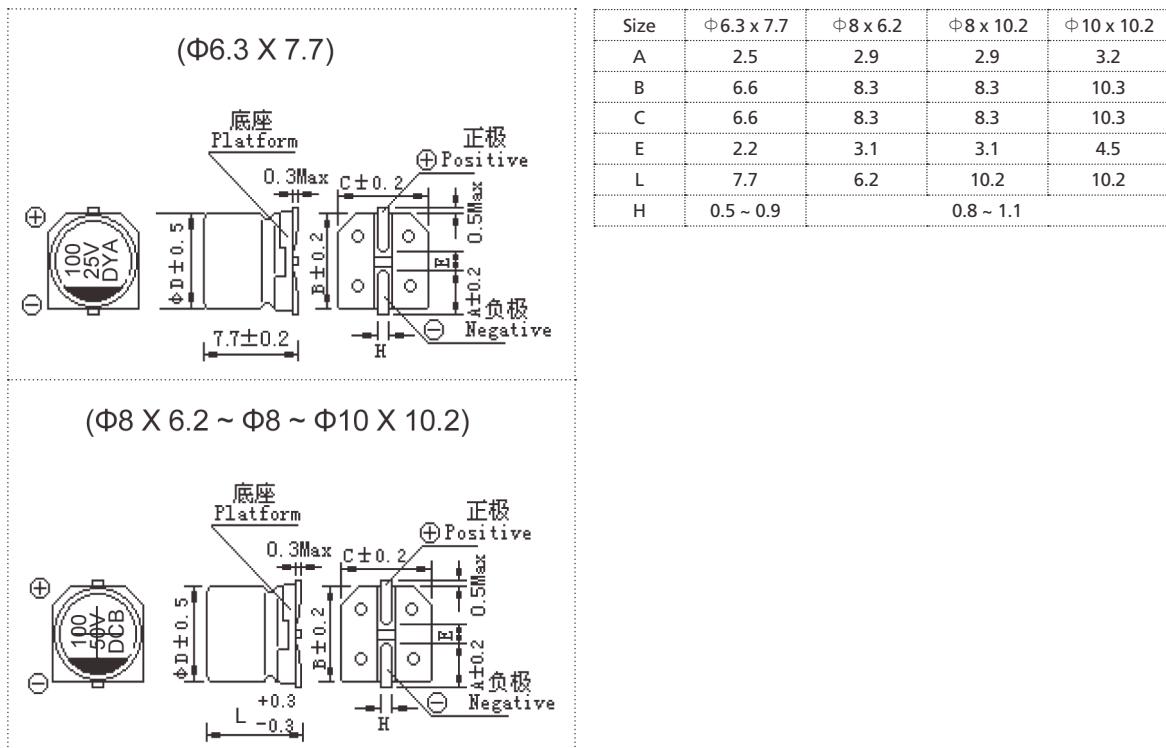


FEATURES

- ↗ Life time: 105°C, 2,000Hrs
- ↗ Reflow soldering is available
- ↗ Available for high density surface mounting
- ↗ High stability and reliability

**SPECIFICATIONS**

| Item | Performance Characteristics | | | | | | | | |
|---------------------------------|---|------------------------------|------|------|------|---------------------------------|--|------|------|
| Operating Temperature Range | -55 to +105°C | | | | | | | | |
| Rated Working Voltage Range | 6.3 to 100V | | | | | | | | |
| Nominal Capacitance Range | 4.7 to 1500μF | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, +20°C | | | | | | | | |
| Leakage Current | I ≤ 0.01CV or 3(μA) whichever is greater measure after 2 minutes application of rated working voltage at +20°C | | | | | | | | |
| tanδ (120Hz, +20°C) | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | tanδ (max.) | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.12 | 0.12 |
| Low Temperature Characteristics | Impedance ratio max. at 120Hz | | | | | | | | |
| | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Z-25°C / Z+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 3 |
| High Temperature Loading | Z-40°C / Z+20°C | 8 | 6 | 4 | 4 | 3 | 3 | 4 | 4 |
| | Test time | : 2,000 hours | | | | Post test requirements at +20°C | | | |
| | Test temperature | : +105°C | | | | Leakage current | : ≤Initial specified value | | |
| Shelf Life | Test conditions | : Rated DC working voltage | | | | Cap. change | : within ±20% of the initial measured value (≤16V:within ±25%) | | |
| | | | | | | tanδ | : ≤200% of the initial specified value | | |
| | Industrial Standard | JIS C - 5101-4 (IEC 60384-4) | | | | | | | |

DIMENSIONS & MARKING

PART NUMBER SYSTEM (EXAMPLE: 25V 470μF)

| 1 | 2 3 | 4 5 6 | 7 | 8 9 | 10 | 11 12 | 13 14 |
|---|-----|-------|---|-----|----|-------|-------|
| V | TD | 477 | M | 1E | G | T2 | TR |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Type (Taping)
Case Length (10.2mm)
Diameter (10mm)
Voltage (25V)
Tolerance ($\pm 20\%$)
Capacitance (470μF)
Series
V-CHIP

STANDARD RATINGS

| Voltage (Code) | | 6.3V (0J) | | 10V (1A) | | 16V (1C) | | 25V (1E) | |
|----------------|------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|
| Cap. (μF) | Code | Case Size | Ripple Current |
| 100 | 107 | | | | | | | 6.3 x 7.7 | 91 |
| | | | | | | | | 8 x 6.2 | 105 |
| 220 | 227 | 6.3 x 7.7 | 105 | 6.3 x 7.7 | 110 | 6.3 x 7.7 | 105 | 8 x 10.2 | 175 |
| | | 8 x 6.2 | 115 | 8 x 6.2 | 120 | 8 x 6.2 | 125 | | |
| 330 | 337 | 6.3 x 7.7 | 110 | 8 x 10.2 | 196 | 8 x 10.2 | 195 | 10 x 10.2 | 240 |
| | | 8 x 6.2 | 120 | | | | | 8 x 10.2 | 220 |
| 470 | 477 | 8 x 10.2 | 210 | 8 x 10.2 | 210 | 10 x 10.2 | 295 | 10 x 10.2 | 280 |
| | | | | | | 8 x 10.2 | 230 | | |
| 1000 | 108 | 10 x 10.2 | 300 | 10 x 10.2 | 315 | 10 x 10.2 | 340 | | |
| | | 8 x 10.2 | 230 | | | | | | |
| 1500 | 158 | 10 x 10.2 | 315 | 10 x 12 | 350 | | | | |

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size ϕ D x L (mm)

| Voltage (Code) | | 35V (1V) | | 50V (1H) | | 63V (1J) | | 100V (2A) | |
|----------------|------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|
| Cap. (μF) | Code | Case Size | Ripple Current |
| 4.7 | 475 | | | | | | | 6.3 x 7.7 | 35 |
| | | | | | | | | 8 x 6.2 | 40 |
| 10 | 106 | | | | | 6.3 x 7.7 | 39 | 8 x 10.2 | 77 |
| | | | | | | 8 x 6.2 | 45 | 6.3 x 7.7 | 35 |
| 22 | 226 | | | 6.3 x 7.7 | 51 | 6.3 x 7.7 | 48 | 10 x 10.2 | 126 |
| | | | | 8 x 6.2 | 54 | | | 8 x 10.2 | 84 |
| 33 | 336 | 8 x 6.2 | 50 | 6.3 x 7.7 | 60 | 8 x 10.2 | 98 | 10 x 10.2 | 133 |
| | | | | | | 6.3 x 7.7 | 49 | | |
| 47 | 476 | 6.3 x 7.7 | 70 | 8 x 10.2 | 120 | 10 x 10.2 | 160 | 10 x 10.2 | 140 |
| | | 8 x 6.2 | 78 | 6.3 x 7.7 | 75 | 8 x 10.2 | 119 | | |
| 100 | 107 | 8 x 10.2 | 120 | 10 x 10.2 | 170 | 10 x 10.2 | 196 | | |
| | | 6.3 x 7.7 | 84 | 8 x 10.2 | 140 | | | | |
| 220 | 227 | 10 x 10.2 | 220 | 10 x 10.2 | 220 | | | | |
| | | 8 x 10.2 | 190 | | | | | | |
| 330 | 337 | 10 x 10.2 | 245 | | | | | | |
| 470 | 477 | 10 x 12 | 280 | | | | | | |

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size ϕ D x L (mm)

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.