



VDA Series

• 150°C 1,000Hrs assured.

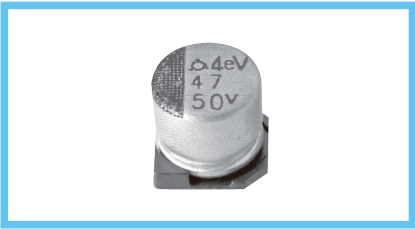
- Vertical SMD type.
- Wide Temperature range.
- Suitable to fit for automotive equipment.
- Ecological capacitors are also available.
- Halogen-free capacitors are also available.

Solvent-proof

CDA

Wide Temp.

VDA

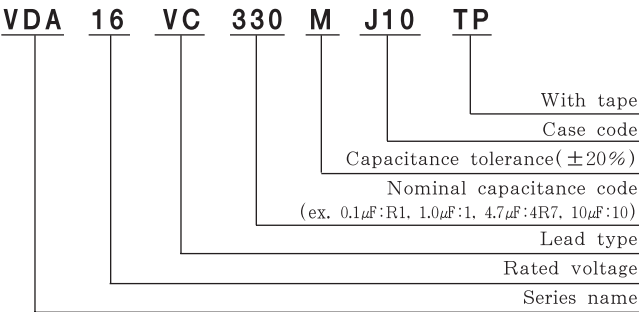


SPECIFICATIONS

| Item | Characteristics | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------|------|------|------|--|---------------------------------|----|----|----|----|----|-------------------|------|------|------|------|------|-------------------|----|----|---|---|---|
| Rated Voltage Range | 10 ~ 50 V _{DC} | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range | -40 ~ +150 °C | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20%(M) (at 20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | I=0.01CV(μA) or 3μA, whichever is greater. Where, I:Max. Leakage current(μA) C:Nominal capacitance(μF) V:Rated voltage(V _{DC}) (at 20°C, 2 minutes) | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor(Tanδ) | <table><tr><td>Rated voltage(V_{DC})</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Tanδ(Max.)</td><td>0.24</td><td>0.20</td><td>0.16</td><td>0.14</td><td>0.14</td></tr></table> (at 20°C, 120Hz) | | | | | | Rated voltage(V _{DC}) | 10 | 16 | 25 | 35 | 50 | Tanδ(Max.) | 0.24 | 0.20 | 0.16 | 0.14 | 0.14 | | | | | | |
| Rated voltage(V _{DC}) | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | |
| Tanδ(Max.) | 0.24 | 0.20 | 0.16 | 0.14 | 0.14 | | | | | | | | | | | | | | | | | | | |
| Temperature Characteristics (Max. Impedance ratio) | <table><tr><td>Rated voltage(V_{DC})</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Z(-25°C)/Z(+20°C)</td><td>6</td><td>4</td><td>3</td><td>2</td><td>2</td></tr><tr><td>Z(-40°C)/Z(+20°C)</td><td>12</td><td>10</td><td>8</td><td>6</td><td>6</td></tr></table> (at 120Hz) | | | | | | Rated voltage(V _{DC}) | 10 | 16 | 25 | 35 | 50 | Z(-25°C)/Z(+20°C) | 6 | 4 | 3 | 2 | 2 | Z(-40°C)/Z(+20°C) | 12 | 10 | 8 | 6 | 6 |
| Rated voltage(V _{DC}) | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | |
| Z(-25°C)/Z(+20°C) | 6 | 4 | 3 | 2 | 2 | | | | | | | | | | | | | | | | | | | |
| Z(-40°C)/Z(+20°C) | 12 | 10 | 8 | 6 | 6 | | | | | | | | | | | | | | | | | | | |
| Load Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 150°C. Capacitance change ≤ ±30% of the initial value Tanδ ≤ 300% of the initial specified value Leakage current ≤ The initial specified value | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 150°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≤ ±30% of the initial value Tanδ ≤ 300% of the initial specified value Leakage current ≤ The initial specified value | | | | | | | | | | | | | | | | | | | | | | | |
| Others | Satisfied characteristics KS C IEC 60384-4 | | | | | | | | | | | | | | | | | | | | | | | |

VDA Series

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

| | | | | |
|-----------|------|------|------|------|
| Freq.(Hz) | 120 | 1K | 10K | 100K |
| Factor | 1.00 | 1.36 | 1.50 | 1.50 |

DIMENSIONS OF VDA Series

Unit(mm)

DIMENSIONS

● Vibration Resistance

〈Size code: J10~K14〉 〈Size code: J10~K14〉

■ : Dummy terminals

Recommended solder land on PC board

■ : Solder land on PC board

MARKING

〈J10〉 〈K14〉

| Case code | φ D | L | A | B | C | W | P | a | b | c | a | b | c |
|-----------|------|------|------|------|------|---------|-----|-----|-----|-----|-----|-----|-----|
| J10 | 10 | 10 | 10.3 | 10.3 | 11.0 | 0.7~1.1 | 4.5 | 4.5 | 4.4 | 2.2 | 4.5 | 4.4 | 3.5 |
| K14 | 12.5 | 13.5 | 13.0 | 13.0 | 13.7 | 1.0~1.3 | 4.2 | 4.0 | 5.7 | 2.5 | 3.4 | 6.3 | 9.3 |

● Vibration Resistance —————→

RATINGS OF VDA Series

| V_{DC} μF | 10 | 16 | 25 | 35 | 50 |
|----------------|---------|---------|---------|---------|---------|
| 47 | | | | J10 90 | J10 90 |
| 100 | | | J10 123 | J10 132 | K14 167 |
| 220 | | J10 163 | J10 183 | K14 249 | |
| 330 | J10 183 | J10 200 | K14 285 | | |
| 470 | J10 218 | K14 304 | | | |
| 1,000 | K14 405 | | | | |

↑ ↑

Rated Ripple Current (mA rms/150°C, 120Hz)

Case code