

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



VA 130 °C, Long Life, Low impedance Series

- Load Life of 4000 hours at 130 °C
- Low impedance at high frequency
- For Electronic Control Unit and other high temperature applications

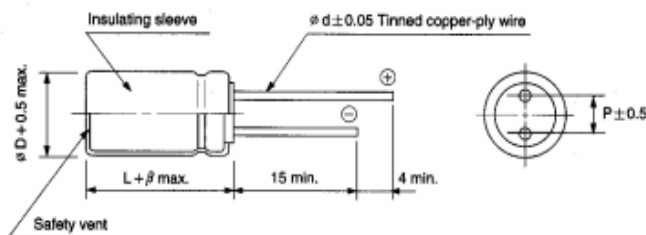


RB \rightarrow High temp. **VA**

| Item | Characteristics | | | | | | | | | | | | | | | | | | | | | |
|--|--|---------------------------|--------------------|--|--------------|---------------------------------------|----|----|---------------------|------|------|------|------|------|------|---------------------|---|---|---|---|---|---|
| Operating temperature range | -40 ~ +130 °C | | | | | | | | | | | | | | | | | | | | | |
| Leakage current max. | $I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes) | | | | | | | | | | | | | | | | | | | | | |
| Capacitance tolerance | $\pm 20\%$ at 120Hz, 20 °C | | | | | | | | | | | | | | | | | | | | | |
| Dissipation factor max. (at 120Hz, 20 °C) | Capacitance > 1000 μF : $\tan\delta$ increase by 0.02 for each 1000 μF from below value. | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Rated Voltage(V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>$\tan\delta$</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> </tr> </tbody> </table> | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | 63 | $\tan\delta$ | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | | | | | | | |
| Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | 63 | | | | | | | | | | | | | | | | |
| $\tan\delta$ | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | | | | | | | | | | | | | | | | |
| Low temperature characteristics (Impedance Ratio at 120Hz) | <table border="1"> <thead> <tr> <th>WV</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Z(-25 °C)/Z(+20 °C)</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40 °C)/Z(+20 °C)</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> | WV | 10 | 16 | 25 | 35 | 50 | 63 | Z(-25 °C)/Z(+20 °C) | 3 | 2 | 2 | 2 | 2 | 2 | Z(-40 °C)/Z(+20 °C) | 6 | 4 | 3 | 3 | 3 | 3 |
| | WV | 10 | 16 | 25 | 35 | 50 | 63 | | | | | | | | | | | | | | | |
| | Z(-25 °C)/Z(+20 °C) | 3 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | |
| Z(-40 °C)/Z(+20 °C) | 6 | 4 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | |
| <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capicitance change</td> <td>Within $\pm 30\%$ of the initial value</td> </tr> <tr> <td>$\tan\delta$</td> <td>Less than 300% of the specified value</td> </tr> </tbody> </table> <p>$\Phi 8$ and $\Phi 10$ products are for 2000 hours</p> | Leakage current | Less than specified value | Capicitance change | Within $\pm 30\%$ of the initial value | $\tan\delta$ | Less than 300% of the specified value | | | | | | | | | | | | | | | | |
| Leakage current | Less than specified value | | | | | | | | | | | | | | | | | | | | | |
| Capicitance change | Within $\pm 30\%$ of the initial value | | | | | | | | | | | | | | | | | | | | | |
| $\tan\delta$ | Less than 300% of the specified value | | | | | | | | | | | | | | | | | | | | | |
| Load life (after application of the rated voltage for 4000 hours at 130 °C) | | | | | | | | | | | | | | | | | | | | | | |
| Shelf life (at 130 °C) | After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value | | | | | | | | | | | | | | | | | | | | | |

● DRAWING

Unit : mm



| | | | | | |
|----------|-----|-----|------|-----|-----|
| ΦD | 8 | 10 | 12.5 | 16 | 18 |
| P | 3.5 | 5 | 5 | 7.5 | 7.5 |
| Φd | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| β | 1.0 | 2.0 | | | |

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

VA series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| WV Item μF | 10(1A) | | | 16(1C) | | | 25(1E) | | |
|------------------|--------------|------------------------------------|---|--------------|------------------------------------|---|--------------|------------------------------------|---|
| | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz |
| 220 | | | | | | | 8×11.5 | 0.22 | 360 |
| 330 | 8×11.5 | 0.22 | 360 | 8×11.5 | 0.22 | 360 | 10×12.5 | 0.15 | 620 |
| 470 | 10×12.5 | 0.15 | 620 | 10×12.5 | 0.15 | 620 | 10×20 | 0.10 | 800 |
| 1000 | 10×20 | 0.073 | 960 | 10×20 | 0.073 | 960 | 12.5×25 | 0.055 | 1100 |
| 2200 | 12.5×25 | 0.040 | 1430 | 12.5×25 | 0.040 | 1430 | 16×31.5 | 0.034 | 2300 |
| 3300 | 16×25 | 0.038 | 1900 | 16×31.5 | 0.034 | 2300 | 16×35.5 | 0.031 | 2550 |
| 4700 | 16×31.5 | 0.034 | 2300 | 16×35.5 | 0.031 | 2550 | | | |

| WV Item μF | 35(1V) | | | 50(1H) | | | 63(1J) | | |
|------------------|--------------|------------------------------------|---|--------------|------------------------------------|---|--------------|------------------------------------|---|
| | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz | ΦD×L (mm) | Impedance (Ωmax.) 20℃,100kHz | Ripple current (mA rms) 130℃,100kHz |
| 1 | | | | 8×11.5 | 2.5 | 35 | | | |
| 2.2 | | | | 8×11.5 | 1.8 | 50 | | | |
| 3.3 | | | | 8×11.5 | 1.3 | 70 | | | |
| 4.7 | | | | 8×11.5 | 0.85 | 100 | | | |
| 10 | | | | 8×11.5 | 0.60 | 200 | | | |
| 22 | | | | 8×11.5 | 0.35 | 260 | | | |
| 33 | | | | 8×11.5 | 0.28 | 300 | 8×11.5 | 0.40 | 250 |
| 47 | | | | 8×11.5 | 0.28 | 300 | 10×12.5 | 0.27 | 400 |
| 100 | 8×11.5 | 0.22 | 360 | 8×11.5 | 0.18 | 520 | 10×16 | 0.20 | 450 |
| 220 | 10×12.5 | 0.15 | 620 | 10×20 | 0.082 | 890 | 12.5×20 | 0.10 | 820 |
| 330 | 10×16 | 0.10 | 800 | 12.5×20 | 0.065 | 1000 | 12.5×25 | 0.072 | 1000 |
| 470 | 10×20 | 0.073 | 960 | 12.5×25 | 0.051 | 1200 | 16×25 | 0.069 | 1500 |
| 1000 | 12×25 | 0.040 | 1430 | 16×31.5 | 0.037 | 2180 | 16×31.5 | 0.056 | 1850 |
| 2200 | 16×35.5 | 0.031 | 2550 | 18×35.5 | 0.029 | 2800 | | | |
| 3300 | 18×35.5 | 0.028 | 2800 | | | | | | |