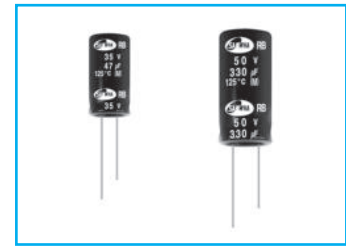


# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**RB** High Temperature, For 125°C Use Series

**S**  
Solvent Proof  
WV ≤ 100V

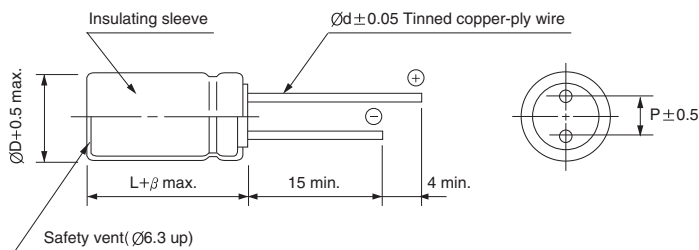


- Load life of 2000 hours at 125°C
- For Electronic Control unit and other high temperature applications
- Complied to the RoHS directive

| Item   | Characteristics   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
|--|---|---------------------------|--------------------|------------------------------|---------------|-----------------------------------|----------|---------------|----------|-----------|------|------|------|------|------|------|------|------|
| Operating temperature range  | WV ≤ 50: -55 ~ +125°C, WV ≥ 63: -40 ~ +125°C  |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Leakage current max.   | WV ≤ 50: I = 0.01CV or 3µA whichever is greater (after 2 minutes)<br>WV ≥ 63: 0.03CV + 10µA (after 5 minutes)   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Capacitance tolerance  | ±20% at 120Hz, 20°C   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Dissipation factor max.<br>(at 120Hz, 20°C)  | Capacitance > 1000µF : tanδ increases by 0.02 for each 1000µF from below value.   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
|  | <table border="1"> <thead> <tr> <th>Rated Voltage(V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63 ~ 100</th> <th>160 ~ 250</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.15</td> </tr> </tbody> </table> | Rated Voltage(V)          | 6.3                | 10                           | 16            | 25                                | 35       | 50            | 63 ~ 100 | 160 ~ 250 | tanδ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 |
| Rated Voltage(V)   | 6.3   | 10                        | 16                 | 25                           | 35            | 50                                | 63 ~ 100 | 160 ~ 250     |          |           |      |      |      |      |      |      |      |      |
| tanδ   | 0.22  | 0.19                      | 0.16               | 0.14                         | 0.12          | 0.10                              | 0.08     | 0.15          |          |           |      |      |      |      |      |      |      |      |
| Low temperature characteristics<br>(Impedance ratio at 120Hz)  | <table border="1"> <thead> <tr> <th>WV</th> <th>6.3 ~ 10</th> <th>16 ~ 250</th> </tr> </thead> <tbody> <tr> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>5</td> <td>4</td> </tr> </tbody> </table>  | WV                        | 6.3 ~ 10           | 16 ~ 250                     | Z-25°C/Z+20°C | 3                                 | 2        | Z-40°C/Z+20°C | 5        | 4         |      |      |      |      |      |      |      |      |
|  | WV  | 6.3 ~ 10                  | 16 ~ 250           |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
|  | Z-25°C/Z+20°C   | 3                         | 2                  |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Z-40°C/Z+20°C  | 5   | 4                         |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tanδ</td> <td>Less than 300% of specified value</td> </tr> </tbody> </table> | Leakage current   | Less than specified value | Capacitance change | Within ±20% of initial value | tanδ          | Less than 300% of specified value |          |               |          |           |      |      |      |      |      |      |      |      |
| Leakage current  | Less than specified value   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Capacitance change   | Within ±20% of initial value  |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| tanδ   | Less than 300% of specified value   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Load life<br>(after application of the rated voltage for 2000 hours at 125°C)  | <p>∅5, 6.3 and WV ≥ 100 products are for 1000 hours</p>   |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |
| Shelf life (at 125°C)  | After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4  |                           |                    |                              |               |                                   |          |               |          |           |      |      |      |      |      |      |      |      |

## ● DRAWING

Unit : mm



| ∅D | 5   | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
|----|-----|-----|-----|-----|------|-----|-----|
| P  | 2.0 | 2.5 | 3.5 | 5.0 | 5.0  | 7.5 | 7.5 |
| ∅d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6  | 0.8 | 0.8 |
| β  | 1.5 |     |     | 2.0 |      |     |     |

## ● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

| WV      | µF | Frequency  | 60Hz | 120Hz | 1kHz | 10kHz | 50kHz | 100kHz ≤ |
|---------|----|------------|------|-------|------|-------|-------|----------|
| 6.3~100 |    | ~ 47       | 0.38 | 0.50  | 0.78 | 1.00  | 1.00  | 1.00     |
|         |    | 68 ~ 680   | 0.46 | 0.57  | 0.77 | 0.86  | 0.93  | 1.00     |
|         |    | 1000 ~     | 0.57 | 0.67  | 0.77 | 0.77  | 0.88  | 1.00     |
| 160~250 |    | 0.47 ~ 220 | 0.44 | 0.56  | 0.78 | 0.89  | 0.94  | 1.00     |
|         |    | 330 ~      | 0.60 | 0.67  | 0.75 | 0.77  | 0.88  | 1.00     |

**RB** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| WV<br>Item<br>μF | 6.3          |   | 10           |   | 16           |   |
|------------------|--------------|---|--------------|---|--------------|---|
|                  | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz |
| 47               |              |   |              |   | 5×11         | 165   |
| 68               |              |   | 5×11         | 165   | 6.3×11       | 230   |
| 100              | 5×11         | 160   | 6.3×11       | 220   | 6.3×11       | 280   |
| 150              | 6.3×11       | 240   | 6.3×11       | 280   | 8×11.5       | 410   |
| 220              | 6.3×11       | 300   | 8×11.5       | 410   | 8×11.5       | 485   |
| 330              | 8×11.5       | 310   | 8×11.5       | 485   | 10×12.5      | 660   |
| 470              | 10×12.5      | 605   | 10×12.5      | 635   | 10×16        | 815   |
| 680              | 10×16        | 740   | 10×16        | 815   | 10×20        | 1075  |
| 1000             | 10×20        | 1005  | 10×20        | 1120  | 12.5×20      | 1490  |
| 1500             | 10×25        | 1290  | 12.5×20      | 1495  | 12.5×25      | 1755  |
| 2200             | 12.5×20      | 1520  | 12.5×25      | 1805  | 16×20        | 1900  |
| 3300             | 12.5×25      | 1805  | 16×20        | 1955  | 16×25        | 2210  |
| 4700             | 16×25        | 2045  | 16×31.5      | 2555  | 16×35.5      | 2830  |
| 6800             | 16×31.5      | 2505  | 16×35.5      | 2830  | 18×35.5      | 3060  |
| 10000            | 16×40        | 2905  | 18×40        | 3210  |              |   |
| 15000            | 18×40        | 3125  |              |   |              |   |

| WV<br>Item<br>μF | 25           |   | 35           |   | 50           |   |
|------------------|--------------|---|--------------|---|--------------|---|
|                  | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz | ∅D×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C<br>100kHz |
| 1.0              |              |   |              |   | 5×11         | 40  |
| 1.5              |              |   |              |   | 5×11         | 50  |
| 2.2              |              |   |              |   | 5×11         | 55  |
| 3.3              |              |   |              |   | 5×11         | 70  |
| 4.7              |              |   |              |   | 5×11         | 85  |
| 6.8              |              |   |              |   | 5×11         | 95  |
| 10               |              |   |              |   | 5×11         | 120   |
| 15               |              |   |              |   | 5×11         | 155   |
| 22               |              |   | 5×11         | 170   | 6.3×11       | 205   |
| 33               | 5×11         | 165   | 6.3×11       | 240   | 6.3×11       | 255   |
| 47               | 6.3×11       | 220   | 6.3×11       | 285   | 8×11.5       | 365   |
| 68               | 6.3×11       | 275   | 8×11.5       | 405   | 8×11.5       | 435   |
| 100              | 8×11.5       | 405   | 8×11.5       | 485   | 10×16        | 615   |
| 150              | 8×11.5       | 485   | 10×12.5      | 660   | 10×20        | 865   |
| 220              | 10×12.5      | 635   | 10×16        | 815   | 10×25        | 1100  |
| 330              | 10×16        | 790   | 10×20        | 1120  | 12.5×20      | 1330  |
| 470              | 10×20        | 1075  | 12.5×20      | 1480  | 12.5×25      | 1585  |
| 680              | 12.5×20      | 1470  | 12.5×25      | 1755  | 16×20        | 1720  |
| 1000             | 12.5×25      | 1755  | 16×20        | 1870  | 16×31.5      | 2240  |
| 1500             | 16×20        | 1870  | 16×31.5      | 2520  | 16×40        | 2545  |
| 2200             | 16×25        | 2165  | 16×35.5      | 2830  | 18×40        | 2705  |
| 3300             | 16×35.5      | 2830  | 18×40        | 3210  |              |   |
| 4700             | 18×40        | 3125  |              |   |              |   |

MINIATURE TYPES

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**RB** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| WV<br>Item<br>μF | 63           |  | 100          |  | 160          |  |
|------------------|--------------|--|--------------|--|--------------|--|
|                  | ØD×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C 100kHz | ØD×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C 100kHz | ØD×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C 100kHz |
| 1.0              |              |  | 8×11.5       | 25   | 10×12.5      | 20   |
| 2.0              |              |  | 8×12.5       | 45   | 10×16        | 32   |
| 3.3              |              |  | 10×16        | 60   | 10×16        | 42   |
| 4.7              |              |  | 10×16        | 70   | 10×20        | 50   |
| 10               | 8×11.5       | 80   | 10×20        | 110  | 12.5×20      | 85   |
| 22               | 10×16        | 150  | 12.5×25      | 205  | 16×25        | 155  |
| 33               | 10×20        | 200  | 16×25        | 280  | 16×31.5      | 210  |
| 47               | 12.5×20      | 280  | 16×31.5      | 370  |              |  |
| 100              | 12.5×25      | 445  |              |  |              |  |

| WV<br>Item<br>μF | 200          |  | 250          |  |
|------------------|--------------|--|--------------|--|
|                  | ØD×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C 100kHz | ØD×L<br>(mm) | Ripple current<br>(mA rms)<br>125°C 100kHz |
| 1.0              | 10×12.5      | 20   | 10×12.5      | 18   |
| 2.0              | 10×16        | 32   | 10×16        | 32   |
| 3.3              | 10×20        | 42   | 10×20        | 42   |
| 4.7              | 10×20        | 50   | 12.5×20      | 60   |
| 10               | 12.5×20      | 95   | 16×25        | 105  |
| 22               | 16×31.5      | 170  |              |  |