

Aluminum Electrolytic Capacitors

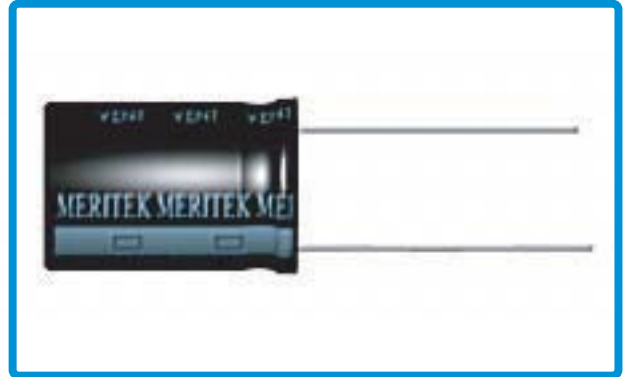


RB Series
(General Purpose)

MERITEK

FEATURES

- Wide CV value range
- High performance



SPECIFICATIONS

| Item | Characteristic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------------|------|------|--------|------|------|---------|------|------|---------|------|------|--|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Operating Temp Range | -40 °C to +85°C | -25 °C to +85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Working Voltage | 6.3 to 100VDC | 160 to 450VDC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (M) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (25°C) | Rated Voltage | ≤100V | > 100V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Time | After 3 minutes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Leakage current (I) | I ≤ 0.01CV or 3μA Whichever is greater | I ≤ 0.03CV + 10 μA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C= Nominal Capacitance (μF) V= Rated voltage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Surge voltage (25°C) | <table border="1"> <thead> <tr> <th>WV</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>SV</td> <td>8</td> <td>13</td> <td>20</td> <td>32</td> <td>44</td> <td>63</td> <td>79</td> <td>125</td> <td>200</td> <td>250</td> <td>300</td> <td>400</td> <td>450</td> <td>500</td> </tr> </tbody> </table> | | | | | | | | | | | | | | | WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | SV | 8 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 400 | 450 | 500 |
| WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SV | 8 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 400 | 450 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor Tanδ (120Hz, 25°C) | Add 0.02 per 100μF for more than 100μF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>WV</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.24</td> <td>0.20</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> </tr> </tbody> </table> | | | | | | | | | | | | | | | WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | tanδ | 0.24 | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.08 | 0.20 | 0.20 | 0.20 | 0.25 | 0.25 | 0.25 |
| WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tanδ | 0.24 | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.08 | 0.20 | 0.20 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Temperature Stability | Impedance ratio at 120Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rated voltage | 6.3 | 10 | 16 | 25 | 35-100 | | | 160-250 | | | 350-450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | -25°C to +25°C | 4 | 3 | 2 | 2 | 2 | | | 8 | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load Life | After 2000 hours application of WV at +85°C the capacitor shall meet the following limits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | ≤ ±20% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dissipation Factor | ≤ 200% of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life | At 85°C no voltage applied after 500 hours the capacitor shall meet the following limits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | ≤ ±20% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dissipation Factor | ≤ 200% of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage current | ≤ 200% of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PART NUMBERING SYSTEM

| | | | | | | |
|-----------------------------|-------------|-------------|------------|----------|-----------|----------------|
| Meritek Series | RB | 16V | 222 | M | TA | 13 x 21 |
| Voltage | | | | | | |
| Capacitance | | | | | | |
| Tolerance – M = ±20% | | | | | | |
| Package | | | | | | |
| CODE | TA | TR | BLANK | | | |
| | Tape & Ammo | Tape & Reel | Bulk | | | |

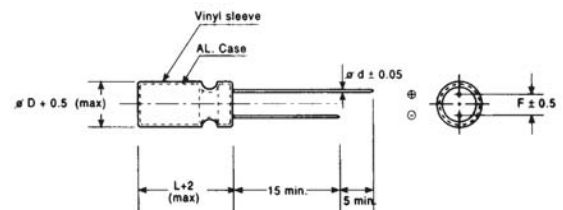
Case size – (D) Diameter X (L) Length in mm (Optional)

A suffix may be added to denote tape and reel/tape and ammo lead spacing or customer specific features

Specifications are subject to change without notice.

CASE SIZE

| D | 5 | 6.3 | 8 | 10 | 13 | 16 | 18 | 22 | 25 |
|---|-----|-----|-----|-----|----|-----|----|-----|----|
| F | 2.0 | 2.5 | 3.5 | 5.0 | | 7.5 | | 10 | 12 |
| d | 0.5 | | 0.6 | | | 0.8 | | 1.0 | |



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CASE SIZE & MAX RIPPLE CURRENT

Case size: D x L (mm)
Max ripple current: mA (rms)
(R.C.): 85°C, 120Hz

| μF | WV | 6.3 | | 10 | | 16 | |
|-------|------|--------|------|--------|------|--------|------|
| | ITEM | D X L | R.C. | D X L | R.C. | D X L | R.C. |
| 47 | | | | | | 5x11 | 100 |
| 100 | | 5x11 | 130 | 5x11 | 140 | 6.3x11 | 170 |
| 220 | | 6.3x11 | 210 | 6.3x11 | 230 | 6.3x11 | 290 |
| 330 | | 6.3x11 | 260 | 6.3x11 | 330 | 8x11 | 350 |
| 470 | | 8x11 | 350 | 8x11 | 390 | 10x12 | 460 |
| 1000 | | 10x12 | 560 | 10x12 | 670 | 10x16 | 820 |
| 2200 | | 10x21 | 980 | 10x21 | 1080 | 13x21 | 1160 |
| 3300 | | 13x21 | 1180 | 13x21 | 1270 | 13x26 | 1490 |
| 4700 | | 13x26 | 1460 | 13x26 | 1610 | 16x26 | 1900 |
| 6800 | | 16x26 | 1700 | 16x26 | 2010 | 16x36 | 2170 |
| 10000 | | 16x32 | 2100 | 18x32 | 2260 | 18x36 | 2560 |
| 15000 | | 18x36 | 2370 | 18x36 | 2670 | | |

| μF | WV | 25 | | 35 | | 50 | |
|-------------|------|--------|------|--------|------|--------|------|
| | ITEM | D X L | R.C. | D X L | R.C. | D X L | R.C. |
| 0.1 to 0.47 | | | | | | 5x11 | 13 |
| 1 | | | | | | 5x11 | 19 |
| 2.2 | | | | | | 5x11 | 29 |
| 3.3 | | | | | | 5x11 | 42 |
| 4.7 | | | | | | 5x11 | 42 |
| 10 | | 5x11 | 50 | | | 5x11 | 60 |
| 22 | | 5x11 | 75 | | | 5x11 | 90 |
| 33 | | 5x11 | 90 | 5x11 | 100 | 6.3x11 | 130 |
| 47 | | 5x11 | 110 | 6.3x11 | 140 | 6.3x11 | 150 |
| 100 | | 6.3x11 | 180 | 8x11 | 230 | 8x11 | 250 |
| 220 | | 8x11 | 310 | 10x12 | 370 | 10x12 | 440 |
| 330 | | 10x12 | 410 | 10x16 | 500 | 10x21 | 610 |
| 470 | | 10x16 | 530 | 10x16 | 670 | 13x21 | 740 |
| 1000 | | 10x21 | 880 | 13x21 | 990 | 16x26 | 1220 |
| 2200 | | 13x21 | 1350 | 16x26 | 1700 | 18x32 | 1890 |
| 3300 | | 16x26 | 1790 | 18x32 | 2000 | 22x36 | 2320 |
| 4700 | | 18x32 | 2040 | 18x36 | 2380 | 22x43 | 2865 |
| 6800 | | 18x36 | 2440 | | | | |

| μF | WV | 63 | | 100 | |
|-------------|------|--------|------|--------|------|
| | ITEM | D X L | R.C. | D X L | R.C. |
| 0.1 to 0.47 | | | | 5x11 | 15 |
| 1 | | | | 5x11 | 22 |
| 2.2 | | | | 5x11 | 32 |
| 3.3 | | | | 5x11 | 39 |
| 4.7 | | | | 5x11 | 47 |
| 10 | | 5x11 | 60 | 6.3x11 | 80 |
| 22 | | 6.3x11 | 100 | 8x11 | 130 |
| 33 | | 6.3x11 | 130 | 10x12 | 180 |
| 47 | | 8x11 | 170 | 10x16 | 230 |
| 100 | | 10x12 | 270 | 10x21 | 380 |
| 220 | | 10x21 | 500 | 13x25 | 640 |
| 330 | | 13x21 | 620 | 16x26 | 780 |
| 470 | | 13x26 | 820 | 16x32 | 1040 |
| 1000 | | 16x32 | 1360 | | |

Custom sizes and leads spacing available upon request

Custom values and tolerances available upon request

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(General Purpose)

MERITEK

CASE SIZE & MAX RIPPLE CURRENT

Case size: D x L (mm)
Max ripple current: mA (rms)
(R.C.): 85°C, 120Hz

| μF | WV | 160 | | 200 | | 250 | |
|-------------|------|--------|------|--------|------|--------|------|
| | ITEM | D X L | R.C. | D X L | R.C. | D X L | R.C. |
| 0.1 to 0.47 | | 6.3x11 | 12 | 6.3x11 | 13 | 6.3x11 | 14 |
| 1 | | 6.3x11 | 18 | 6.3x11 | 19 | 6.3x11 | 21 |
| 2.2 | | 6.3x11 | 27 | 6.3x11 | 29 | 6.3x11 | 31 |
| 3.3 | | 6.3x11 | 33 | 6.3x11 | 35 | 8x11 | 31 |
| 4.7 | | 6.3x11 | 39 | 8x11 | 48 | 8x11 | 50 |
| 10 | | 8x11 | 65 | 10x12 | 75 | 10x16 | 90 |
| 22 | | 10x16 | 120 | 10x21 | 140 | 13x21 | 150 |
| 33 | | 10x21 | 160 | 13x21 | 170 | 13x21 | 190 |
| 47 | | 13x21 | 190 | 13x21 | 210 | 13x26 | 250 |
| 100 | | 13x26 | 310 | 16x26 | 340 | 16x32 | 410 |
| 220 | | 16x36 | 540 | 18x42 | 620 | | |
| 330 | | 18x42 | 710 | | | | |

| μF | WV | 350 | | 400 | | 450 | |
|-------------|------|-------|------|-------|------|-------|------|
| | ITEM | D X L | R.C. | D X L | R.C. | D X L | R.C. |
| 0.1 to 0.47 | | 8x11 | 14 | 8x11 | 15 | 8x11 | 12 |
| 1 | | 8x11 | 21 | 8x11 | 21 | 8x11 | 18 |
| 2.2 | | 8x11 | 31 | 8x11 | 32 | 10x12 | 29 |
| 3.3 | | 10x12 | 41 | 10x12 | 42 | 10x16 | 38 |
| 4.7 | | 10x12 | 49 | 10x16 | 55 | 10x18 | 48 |
| 10 | | 10x21 | 85 | 13x21 | 90 | 13x21 | 75 |
| 22 | | 13x21 | 130 | 13x26 | 150 | 16x26 | 130 |
| 33 | | 13x26 | 180 | 16x26 | 190 | 16x32 | 170 |
| 47 | | 16x26 | 220 | 16x32 | 250 | 18x36 | 210 |
| 100 | | 18x36 | 360 | | | | |

Custom sizes and leads spacing available upon request

Custom values and tolerances available upon request

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

| V | Cap (μF) | Frequency | | | | |
|------------|---------------|-----------|-------|-------|------|-------|
| | | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz |
| 6.3 to 100 | 0.1 to 47 | 0.75 | 1.00 | 1.35 | 1.57 | 2.00 |
| | 100 to 470 | 0.80 | 1.00 | 1.23 | 1.34 | 1.50 |
| | 1000 to 15000 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |
| 160 to 450 | 0.47 to 220 | 0.80 | 1.00 | 1.25 | 1.40 | 1.60 |
| | 330 | 0.90 | 1.00 | 1.10 | 1.13 | 1.15 |

ALLOWABLE RIPPLE CURRENT VS. AMBIENT TEMPERATURE

| Ambient Temp (°C) | +70 | +85 |
|-------------------|------|------|
| Coefficient | 1.27 | 1.00 |