



RXK Series

Features

- 105°C, 2,000 ~ 5,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHS Compliance

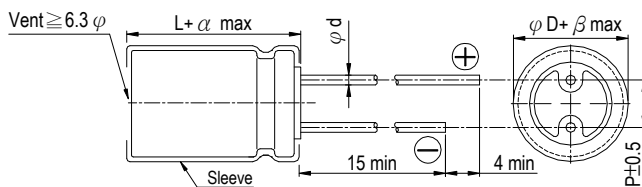


Sleeve & Marking Color: Black & Golden

Specifications

| Items                                      | Performance  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
|--|--|-------------------------------|---|--------------------|------------------------------|--------------|-----------------------------------|-----------------|------------------------|--------------------|-------------------|------|------|------|------|----------|------|------|------|------|------|------|-------------|------|------|------|------|------|------|----------------|------|------|------|------|------|------|
| Category Temperature Range                 | -55°C ~ +105°C   |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Capacitance Tolerance                      | ±20% (at 120Hz, 20°C)  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Leakage Current (at 20°C)                  | $I = 0.01CV$ or $3 (\mu A)$ whichever is greater (after 2 minutes)<br>Where, C = rated capacitance in $\mu F$ V = rated DC working voltage in V  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Tan $\delta$ (at 120Hz, 20°C)              | <table border="1"> <tr> <th>Rated Voltage</th> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <th>Tan<math>\delta</math> (max)</th> <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>0.09</td> </tr> </table> <p>When the capacitance exceeds 1,000<math>\mu F</math>, 0.02 shall be added every 1,000<math>\mu F</math> increase.</p>   | Rated Voltage                 | 6.3   | 10                 | 16                           | 25           | 35                                | 50              | 63                     | Tan $\delta$ (max) | 0.22              | 0.19 | 0.16 | 0.14 | 0.12 | 0.10     | 0.09 |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Rated Voltage                              | 6.3  | 10                            | 16  | 25                 | 35                           | 50           | 63                                |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Tan $\delta$ (max)                         | 0.22   | 0.19                          | 0.16  | 0.14               | 0.12                         | 0.10         | 0.09                              |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <tr> <th>Rated Voltage</th> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <th>Impedance Ratio</th> <td>Z(-55°C)/Z(+20°C)</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>   | Rated Voltage                 | 6.3   | 10                 | 16                           | 25           | 35                                | 50              | 63                     | Impedance Ratio    | Z(-55°C)/Z(+20°C) | 4    | 4    | 3    | 3    | 3        | 3    |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Rated Voltage                              | 6.3  | 10                            | 16  | 25                 | 35                           | 50           | 63                                |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Impedance Ratio                            | Z(-55°C)/Z(+20°C)  | 4                             | 4   | 3                  | 3                            | 3            | 3                                 |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Endurance                                  | <table border="1"> <tr> <th>Test Time</th> <td>2,000 Hrs for <math>\phi D \leq 6.3</math> mm;<br/>3,000 Hrs for <math>\phi D = 8</math> mm;<br/>4,000 Hrs for <math>\phi D = 10</math> mm;<br/>5,000 Hrs for <math>\phi D \geq 12.5</math> mm</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±20% of initial value</td> </tr> <tr> <th>Tan<math>\delta</math></th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 2,000 ~ 5,000 hours at 105°C.</p> | Test Time                     | 2,000 Hrs for $\phi D \leq 6.3$ mm;<br>3,000 Hrs for $\phi D = 8$ mm;<br>4,000 Hrs for $\phi D = 10$ mm;<br>5,000 Hrs for $\phi D \geq 12.5$ mm | Capacitance Change | Within ±20% of initial value | Tan $\delta$ | Less than 200% of specified value | Leakage Current | Within specified value |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Test Time                                  | 2,000 Hrs for $\phi D \leq 6.3$ mm;<br>3,000 Hrs for $\phi D = 8$ mm;<br>4,000 Hrs for $\phi D = 10$ mm;<br>5,000 Hrs for $\phi D \geq 12.5$ mm  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Capacitance Change                         | Within ±20% of initial value   |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Tan $\delta$                               | Less than 200% of specified value  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Leakage Current                            | Within specified value   |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Shelf Life Test                            | <table border="1"> <tr> <th>Test Time</th> <td>1,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±20% of initial value</td> </tr> <tr> <th>Tan<math>\delta</math></th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.</p>  | Test Time                     | 1,000 Hrs   | Capacitance Change | Within ±20% of initial value | Tan $\delta$ | Less than 200% of specified value | Leakage Current | Within specified value |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Test Time                                  | 1,000 Hrs  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Capacitance Change                         | Within ±20% of initial value   |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Tan $\delta$                               | Less than 200% of specified value  |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Leakage Current                            | Within specified value   |                               |   |                    |                              |              |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Ripple Current & Frequency Multipliers     | <table border="1"> <tr> <th>Cap. (<math>\mu F</math>) \ Freq. (Hz)</th> <th>60 (50)</th> <th>120</th> <th>500</th> <th>1k</th> <th>10k</th> <th>100k</th> </tr> <tr> <td>Under 33</td> <td>0.40</td> <td>0.55</td> <td>0.65</td> <td>0.80</td> <td>0.90</td> <td>1.00</td> </tr> <tr> <td>39 ~ 330</td> <td>0.60</td> <td>0.70</td> <td>0.80</td> <td>0.90</td> <td>0.95</td> <td>1.00</td> </tr> <tr> <td>390 ~ 1,000</td> <td>0.65</td> <td>0.80</td> <td>0.85</td> <td>0.98</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>1,200 up above</td> <td>0.80</td> <td>0.90</td> <td>0.95</td> <td>0.98</td> <td>1.00</td> <td>1.00</td> </tr> </table>  | Cap. ( $\mu F$ ) \ Freq. (Hz) | 60 (50)   | 120                | 500                          | 1k           | 10k                               | 100k            | Under 33               | 0.40               | 0.55              | 0.65 | 0.80 | 0.90 | 1.00 | 39 ~ 330 | 0.60 | 0.70 | 0.80 | 0.90 | 0.95 | 1.00 | 390 ~ 1,000 | 0.65 | 0.80 | 0.85 | 0.98 | 1.00 | 1.00 | 1,200 up above | 0.80 | 0.90 | 0.95 | 0.98 | 1.00 | 1.00 |
| Cap. ( $\mu F$ ) \ Freq. (Hz)              | 60 (50)  | 120                           | 500   | 1k                 | 10k                          | 100k         |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| Under 33                                   | 0.40   | 0.55                          | 0.65  | 0.80               | 0.90                         | 1.00         |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| 39 ~ 330                                   | 0.60   | 0.70                          | 0.80  | 0.90               | 0.95                         | 1.00         |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| 390 ~ 1,000                                | 0.65   | 0.80                          | 0.85  | 0.98               | 1.00                         | 1.00         |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |
| 1,200 up above                             | 0.80   | 0.90                          | 0.95  | 0.98               | 1.00                         | 1.00         |                                   |                 |                        |                    |                   |      |      |      |      |          |      |      |      |      |      |      |             |      |      |      |      |      |      |                |      |      |      |      |      |      |

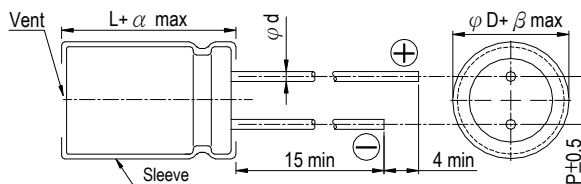
Diagram of Dimensions



Lead Spacing and Diameter Unit: mm

| $\phi D$ | 5                             | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
|----------|-------------------------------|-----|-----|-----|------|-----|-----|
| P        | 2.0                           | 2.5 | 3.5 | 5.0 | 5.0  | 7.5 | 7.5 |
| $\phi d$ | 0.5                           |     | 0.6 |     |      | 0.8 |     |
| $\alpha$ | L < 20: 1.5, L $\geq$ 20: 2.0 |     |     |     |      |     |     |
| $\beta$  | 0.5                           |     |     |     |      |     |     |

The case size of 16x20 is suitable for below diagram:



Dimension:  $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 100k Hz, 105°C

### Dimension & Permissible Ripple Current

| V. DC<br>Item<br>$\mu\text{F}$ | 6.3V (0J)                   |  |                         |                                   |                         | 10V (1A)                             |  |                                  |                                   |                                  | 16V (1C)                    |  |                         |                                   |                         |
|--------------------------------|-----------------------------|--|-------------------------|-----------------------------------|-------------------------|--------------------------------------|--|----------------------------------|-----------------------------------|----------------------------------|-----------------------------|--|-------------------------|-----------------------------------|-------------------------|
|                                | $\phi D \times L$           | Impedance<br>( $\Omega$ , Max/100k Hz) |                         | Ripple Current<br>(mA/rms, 105°C) |                         | $\phi D \times L$                    | Impedance<br>( $\Omega$ , Max/100k Hz) |                                  | Ripple Current<br>(mA/rms, 105°C) |                                  | $\phi D \times L$           | Impedance<br>( $\Omega$ , Max/100k Hz) |                         | Ripple Current<br>(mA/rms, 105°C) |                         |
|                                |                             | 20°C                                   | -10°C                   | 120 Hz                            | 100k Hz                 |                                      | 20°C                                   | -10°C                            | 120 Hz                            | 100k Hz                          |                             | 20°C                                   | -10°C                   | 120 Hz                            | 100k Hz                 |
| 56                             |                             |  |                         |                                   |                         |                                      |  |                                  |                                   |                                  | 5×11                        | 0.72                                   | 1.8                     | 116                               | 165                     |
| 68                             |                             |  |                         |                                   |                         |                                      |  |                                  |                                   |                                  | 5×11                        | 0.72                                   | 1.8                     | 126                               | 180                     |
| 82                             |                             |  |                         |                                   |                         | 5×11                                 | 0.72                                   | 1.8                              | 116                               | 165                              |                             |  |                         |                                   |                         |
| 100                            |                             |  |                         |                                   |                         | 5×11                                 | 0.72                                   | 1.8                              | 126                               | 180                              |                             |  |                         |                                   |                         |
| 120                            | 5×11                        | 0.72                                   | 1.8                     | 116                               | 165                     |                                      |  |                                  |                                   |                                  | 6.3×11                      | 0.38                                   | 0.95                    | 179                               | 255                     |
| 180                            |                             |  |                         |                                   |                         | 6.3×11                               | 0.38                                   | 0.95                             | 179                               | 255                              | 6.3×15                      | 0.27                                   | 0.68                    | 231                               | 330                     |
| 220                            | 6.3×11                      | 0.38                                   | 0.95                    | 179                               | 255                     | 6.3×11                               | 0.38                                   | 0.95                             | 196                               | 280                              |                             |  |                         |                                   |                         |
| 270                            | 6.3×11                      | 0.38                                   | 0.95                    | 196                               | 280                     | 6.3×15                               | 0.27                                   | 0.68                             | 231                               | 330                              | 8×11.5<br>10×12.5           | 0.20<br>0.12                           | 0.50<br>0.30            | 291<br>438                        | 415<br>625              |
| 330                            | 6.3×15                      | 0.27                                   | 0.68                    | 231                               | 330                     | 8×11.5                               | 0.20                                   | 0.50                             | 291                               | 415                              | 8×11.5<br>8×15<br>10×12.5   | 0.20<br>0.16<br>0.12                   | 0.50<br>0.40<br>0.30    | 315<br>347<br>540                 | 450<br>495<br>675       |
| 390                            | 8×11.5                      | 0.20                                   | 0.50                    | 332                               | 415                     | 8×11.5<br>10×12.5                    | 0.20<br>0.12                           | 0.50<br>0.30                     | 360<br>500                        | 450<br>625                       |                             |  |                         |                                   |                         |
| 470                            | 8×11.5<br>10×12.5           | 0.20<br>0.12                           | 0.50<br>0.30            | 360<br>500                        | 450<br>625              | 8×15<br>10×12.5                      | 0.16<br>0.12                           | 0.40<br>0.30                     | 396<br>540                        | 495<br>675                       | 8×15<br>8×20<br>10×16       | 0.16<br>0.11<br>0.084                  | 0.40<br>0.28<br>0.21    | 472<br>512<br>660                 | 590<br>640<br>825       |
| 560                            | 8×15<br>10×12.5             | 0.16<br>0.12                           | 0.40<br>0.30            | 396<br>540                        | 495<br>675              | 8×15                                 | 0.16                                   | 0.40                             | 472                               | 590                              | 8×20<br>10×16               | 0.11<br>0.084                          | 0.28<br>0.21            | 560<br>728                        | 700<br>910              |
| 680                            | 10×16                       | 0.084                                  | 0.21                    | 660                               | 825                     | 8×20<br>10×16                        | 0.11<br>0.084                          | 0.28<br>0.21                     | 512<br>660                        | 640<br>825                       | 10×20                       | 0.062                                  | 0.16                    | 832                               | 1,040                   |
| 820                            | 8×15<br>8×20<br>10×16       | 0.16<br>0.11<br>0.084                  | 0.40<br>0.28<br>0.21    | 472<br>512<br>728                 | 590<br>640<br>910       | 8×20<br>10×16                        | 0.11<br>0.084                          | 0.28<br>0.21                     | 560<br>728                        | 700<br>910                       | 10×20<br>10×25              | 0.062<br>0.052                         | 0.16<br>0.13            | 904<br>1,008                      | 1,130<br>1,260          |
| 1,000                          | 8×20                        | 0.11                                   | 0.28                    | 560                               | 700                     | 10×20                                | 0.062                                  | 0.16                             | 832                               | 1,040                            | 10×25                       | 0.052                                  | 0.13                    | 1,112                             | 1,390                   |
| 1,200                          | 10×20                       | 0.062                                  | 0.16                    | 936                               | 1,040                   | 10×20<br>10×25                       | 0.062<br>0.052                         | 0.16<br>0.13                     | 1,017<br>1,134                    | 1,130<br>1,260                   | 10×30<br>12.5×20            | 0.044<br>0.046                         | 0.11<br>0.12            | 1,296<br>1,440                    | 1,440<br>1,340          |
| 1,500                          | 10×20<br>10×25              | 0.062<br>0.052                         | 0.16<br>0.13            | 1,017<br>1,134                    | 1,130<br>1,260          | 10×25<br>10×30                       | 0.052<br>0.044                         | 0.13<br>0.11                     | 1,251<br>1,296                    | 1,390<br>1,440                   | 10×30<br>12.5×20<br>12.5×25 | 0.044<br>0.046<br>0.034                | 0.11<br>0.12<br>0.085   | 1,413<br>1,305<br>1,521           | 1,570<br>1,450<br>1,690 |
| 1,800                          | 10×25                       | 0.052                                  | 0.13                    | 1,251                             | 1,390                   | 10×30<br>12.5×20                     | 0.044<br>0.046                         | 0.11<br>0.12                     | 1,413<br>1,206                    | 1,570<br>1,340                   | 12.5×25                     | 0.034                                  | 0.085                   | 1,629                             | 1,810                   |
| 2,200                          | 10×30<br>12.5×20            | 0.044<br>0.046                         | 0.11<br>0.12            | 1,296<br>1,206                    | 1,440<br>1,340          | 12.5×20<br>12.5×25                   | 0.046<br>0.034                         | 0.12<br>0.085                    | 1,305<br>1,521                    | 1,450<br>1,690                   | 12.5×30<br>16×20            | 0.030<br>0.035                         | 0.075<br>0.087          | 1,755<br>1,485                    | 1,950<br>1,650          |
| 2,700                          | 10×30<br>12.5×20<br>12.5×25 | 0.044<br>0.046<br>0.034                | 0.11<br>0.12<br>0.085   | 1,413<br>1,305<br>1,521           | 1,570<br>1,450<br>1,690 | 12.5×25<br>12.5×30                   | 0.034<br>0.030                         | 0.085<br>0.075                   | 1,629<br>1,755                    | 1,810<br>1,950                   | 12.5×30<br>12.5×35<br>16×25 | 0.030<br>0.027<br>0.028                | 0.075<br>0.068<br>0.070 | 1,917<br>1,980<br>1,863           | 2,130<br>2,200<br>2,070 |
| 3,300                          | 12.5×25                     | 0.034                                  | 0.085                   | 1,629                             | 1,810                   | 12.5×30<br>12.5×35                   | 0.030<br>0.027                         | 0.075<br>0.068                   | 1,917<br>1,980                    | 2,130<br>2,200                   | 12.5×35<br>12.5×40<br>16×25 | 0.027<br>0.024<br>0.028                | 0.068<br>0.060<br>0.070 | 2,151<br>2,196<br>2,025           | 2,390<br>2,440<br>2,250 |
| 3,900                          | 12.5×30                     | 0.030                                  | 0.075                   | 1,755                             | 1,950                   | 12.5×35<br>12.5×40<br>16×20<br>16×25 | 0.027<br>0.024<br>0.035<br>0.028       | 0.068<br>0.060<br>0.087<br>0.070 | 2,196<br>2,151<br>1,692<br>1,863  | 2,390<br>2,440<br>1,880<br>2,070 | 16×31.5                     | 0.025                                  | 0.063                   | 2,115                             | 2,350                   |
| 4,700                          | 12.5×30<br>12.5×35<br>16×20 | 0.030<br>0.027<br>0.035                | 0.075<br>0.068<br>0.087 | 1,917<br>1,980<br>1,44            | 2,130<br>2,200<br>1,600 | 12.5×40<br>16×25                     | 0.024<br>0.028                         | 0.060<br>0.070                   | 2,358<br>2,025                    | 2,620<br>2,250                   | 16×31.5<br>16×35.5          | 0.025<br>0.022                         | 0.055<br>0.055          | 2,295<br>2,295                    | 2,550<br>2,550          |
| 5,600                          | 12.5×35<br>12.5×40<br>16×25 | 0.027<br>0.024<br>0.028                | 0.068<br>0.060<br>0.070 | 2,151<br>2,196<br>1,863           | 2,390<br>2,440<br>2,070 | 16×31.5                              | 0.025                                  | 0.063                            | 2,115                             | 2,350                            | 16×35.5<br>16×40            | 0.022<br>0.018                         | 0.055<br>0.045          | 2,394<br>2,610                    | 2,660<br>2,900          |
| 6,800                          | 12.5×40<br>16×25<br>16×31.5 | 0.024<br>0.028<br>0.025                | 0.060<br>0.070<br>0.063 | 2,358<br>2,025<br>2,115           | 2,620<br>2,250<br>2,350 | 16×31.5<br>16×35.5                   | 0.025<br>0.022                         | 0.063<br>0.055                   | 2,295<br>2,295                    | 2,550<br>2,550                   | 16×40<br>18×35.5            | 0.018<br>0.021                         | 0.045<br>0.053          | 2,844<br>2,448                    | 3,160<br>2,720          |
| 8,200                          | 16×31.5                     | 0.025                                  | 0.063                   | 2,295                             | 2,550                   | 16×35.5                              | 0.022                                  | 0.055                            | 2,448                             | 2,720                            | 18×35.5                     | 0.021                                  | 0.053                   | 2,601                             | 2,890                   |
| 10,000                         | 16×35.5                     | 0.022                                  | 0.055                   | 2,691                             | 2,990                   |                                      |  |                                  |                                   |                                  |                             |  |                         |                                   |                         |



Dimension:  $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 100k Hz, 105°C

Dimension & Permissible Ripple Current

| V. DC<br>Item<br>$\mu\text{F}$ | 25V (1E)                    |  |                         |                                   |                         | 35V (1V)                    |  |                         |                                   |                         | 50V (1H)                    |  |                         |                                   |                         |
|--------------------------------|-----------------------------|--|-------------------------|-----------------------------------|-------------------------|-----------------------------|--|-------------------------|-----------------------------------|-------------------------|-----------------------------|--|-------------------------|-----------------------------------|-------------------------|
|                                | $\phi D \times L$           | Impedance<br>( $\Omega$ , Max/100k Hz) |                         | Ripple Current<br>(mA/rms, 105°C) |                         | $\phi D \times L$           | Impedance<br>( $\Omega$ , Max/100k Hz) |                         | Ripple Current<br>(mA/rms, 105°C) |                         | $\phi D \times L$           | Impedance<br>( $\Omega$ , Max/100k Hz) |                         | Ripple Current<br>(mA/rms, 105°C) |                         |
|                                |                             | 20°C                                   | -10°C                   | 120 Hz                            | 100k Hz                 |                             | 20°C                                   | -10°C                   | 120 Hz                            | 100k Hz                 |                             | 20°C                                   | -10°C                   | 120 Hz                            | 100k Hz                 |
| 18                             |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         | 5×11                        | 1.1                                    | 3.3                     | 72                                | 130                     |
| 22                             |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         | 5×11                        | 1.1                                    | 3.3                     | 83                                | 150                     |
| 27                             |                             |  |                         |                                   |                         | 5×11                        | 0.72                                   | 1.8                     | 91                                | 165                     |                             |  |                         |                                   |                         |
| 33                             |                             |  |                         |                                   |                         | 5×11                        | 0.72                                   | 1.8                     | 99                                | 180                     |                             |  |                         |                                   |                         |
| 39                             | 5×11                        | 0.72                                   | 1.8                     | 116                               | 165                     |                             |  |                         |                                   |                         | 6.3×11                      | 0.56                                   | 1.6                     | 154                               | 220                     |
| 47                             | 5×11                        | 0.72                                   | 1.8                     | 126                               | 180                     |                             |  |                         |                                   |                         | 6.3×11                      | 0.56                                   | 1.6                     | 161                               | 230                     |
| 56                             |                             |  |                         |                                   |                         | 6.3×11                      | 0.38                                   | 0.95                    | 179                               | 255                     | 6.3×15                      | 0.41                                   | 1.2                     | 217                               | 310                     |
| 68                             |                             |  |                         |                                   |                         | 6.3×11                      | 0.38                                   | 0.95                    | 196                               | 280                     | 8×11.5                      | 0.29                                   | 0.84                    | 238                               | 340                     |
| 82                             | 6.3×11                      | 0.38                                   | 0.95                    | 179                               | 255                     | 6.3×15                      | 0.27                                   | 0.68                    | 231                               | 330                     | 8×11.5                      | 0.29                                   | 0.84                    | 249                               | 355                     |
|                                |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         | 8×15                        | 0.25                                   | 0.75                    | 329                               | 470                     |
|                                |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         | 10×12.5                     | 0.16                                   | 0.40                    | 336                               | 480                     |
| 100                            | 6.3×11                      | 0.38                                   | 0.95                    | 196                               | 280                     |                             |  |                         |                                   |                         | 10×12.5                     | 0.16                                   | 0.40                    | 371                               | 530                     |
| 120                            | 6.3×15                      | 0.27                                   | 0.68                    | 231                               | 330                     | 8×11.5                      | 0.20                                   | 0.50                    | 291                               | 415                     | 8×15                        | 0.25                                   | 0.75                    | 392                               | 560                     |
|                                |                             |  |                         |                                   |                         | 10×12.5                     | 0.12                                   | 0.30                    | 438                               | 625                     | 8×20                        | 0.18                                   | 0.52                    | 427                               | 610                     |
|                                |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         | 10×16                       | 0.12                                   | 0.30                    | 529                               | 755                     |
| 150                            | 8×11.5                      | 0.20                                   | 0.50                    | 291                               | 415                     | 8×11.5                      | 0.20                                   | 0.50                    | 315                               | 450                     | 10×16                       | 0.12                                   | 0.30                    | 588                               | 840                     |
|                                |                             |  |                         |                                   |                         | 10×12.5                     | 0.12                                   | 0.30                    | 473                               | 675                     |                             |  |                         |                                   |                         |
| 180                            | 8×11.5<br>10×12.5           | 0.20<br>0.12                           | 0.50<br>0.30            | 315<br>438                        | 450<br>625              | 8×15                        | 0.16                                   | 0.40                    | 347                               | 495                     | 8×20<br>10×20               | 0.18<br>0.088                          | 0.52<br>0.22            | 525<br>662                        | 750<br>945              |
| 220                            | 8×15<br>10×12.5             | 0.16<br>0.12                           | 0.40<br>0.30            | 347<br>473                        | 495<br>675              | 8×15<br>8×20<br>10×16       | 0.16<br>0.11<br>0.084                  | 0.40<br>0.28<br>0.21    | 413<br>448<br>578                 | 590<br>640<br>825       | 10×20<br>10×25              | 0.088<br>0.068                         | 0.22<br>0.17            | 728<br>805                        | 1,040<br>1,150          |
| 270                            |                             |  |                         |                                   |                         | 8×20<br>10×16               | 0.11<br>0.084                          | 0.28<br>0.21            | 490<br>637                        | 700<br>910              | 10×25                       | 0.068                                  | 0.17                    | 896                               | 1,280                   |
| 330                            | 8×15<br>8×20<br>10×16       | 0.16<br>0.11<br>0.084                  | 0.40<br>0.28<br>0.21    | 413<br>448<br>578                 | 590<br>640<br>825       | 10×20                       | 0.062                                  | 0.16                    | 728                               | 1,040                   | 10×30<br>12.5×20            | 0.059<br>0.059                         | 0.15<br>0.15            | 882<br>833                        | 1,260<br>1,190          |
| 390                            | 8×20<br>10×16               | 0.11<br>0.084                          | 0.28<br>0.21            | 560<br>728                        | 700<br>910              | 10×20<br>10×25              | 0.062<br>0.052                         | 0.16<br>0.13            | 904<br>1,008                      | 1,130<br>1,260          | 12.5×20                     | 0.059                                  | 0.15                    | 952                               | 1,190                   |
| 470                            | 10×20                       | 0.062                                  | 0.16                    | 832                               | 1,040                   | 10×25                       | 0.052                                  | 0.13                    | 1,112                             | 1,390                   | 10×30<br>12.5×25            | 0.059<br>0.045                         | 0.15<br>0.11            | 1,176<br>1,192                    | 1,470<br>1,490          |
| 560                            | 10×20<br>10×25              | 0.062<br>0.052                         | 0.16<br>0.13            | 904<br>1,008                      | 1,130<br>1,260          | 10×30<br>12.5×20            | 0.044<br>0.046                         | 0.11<br>0.12            | 1,152<br>1,072                    | 1,440<br>1,340          | 12.5×25<br>12.5×30          | 0.045<br>0.039                         | 0.11<br>0.098           | 1,304<br>1,376                    | 1,630<br>1,720          |
| 680                            | 10×25                       | 0.052                                  | 0.13                    | 1,112                             | 1,390                   | 10×30<br>12.5×20<br>12.5×25 | 0.044<br>0.046<br>0.034                | 0.11<br>0.12<br>0.085   | 1,256<br>1,160<br>1,352           | 1,570<br>1,450<br>1,690 | 12.5×30<br>12.5×35<br>16×20 | 0.039<br>0.033<br>0.048                | 0.098<br>0.083<br>0.120 | 1,520<br>1,512<br>1,248           | 1,800<br>1,900<br>1,560 |
| 820                            | 10×30<br>12.5×20            | 0.044<br>0.046                         | 0.11<br>0.12            | 1,152<br>1,072                    | 1,440<br>1,340          | 12.5×25                     | 0.034                                  | 0.085                   | 1,448                             | 1,810                   | 12.5×35<br>12.5×40<br>16×25 | 0.033<br>0.029<br>0.033                | 0.083<br>0.073<br>0.083 | 1,624<br>1,656<br>1,504           | 2,030<br>2,070<br>1,880 |
| 1,000                          | 10×30<br>12.5×20<br>12.5×25 | 0.044<br>0.046<br>0.034                | 0.11<br>0.12<br>0.085   | 1,256<br>1,160<br>1,352           | 1,570<br>1,450<br>1,690 | 12.5×30<br>16×20            | 0.030<br>0.035                         | 0.075<br>0.087          | 1,560<br>1,376                    | 1,950<br>1,720          | 12.5×40<br>16×25<br>16×31.5 | 0.029<br>0.033<br>0.029                | 0.073<br>0.083<br>0.073 | 1,800<br>1,664<br>1,720           | 2,250<br>2,080<br>2,150 |
| 1,200                          | 12.5×25                     | 0.034                                  | 0.085                   | 1,629                             | 1,810                   | 12.5×30<br>12.5×35<br>16×25 | 0.030<br>0.027<br>0.028                | 0.075<br>0.068<br>0.070 | 1,917<br>1,980<br>1,863           | 2,130<br>2,200<br>2,070 | 16×31.5<br>16×35.5          | 0.029<br>0.025                         | 0.073<br>0.063          | 2,088<br>2,115                    | 2,320<br>2,350          |
| 1,500                          | 12.5×30<br>16×20            | 0.030<br>0.035                         | 0.075<br>0.087          | 1,755<br>1,539                    | 1,950<br>1,710          | 12.5×35<br>12.5×40<br>16×25 | 0.027<br>0.024<br>0.028                | 0.068<br>0.060<br>0.070 | 2,151<br>2,196<br>2,025           | 2,390<br>2,440<br>2,250 | 16×35.5<br>16×40            | 0.025<br>0.021                         | 0.063<br>0.063          | 2,160<br>2,336                    | 2,400<br>2,595          |
| 1,800                          | 12.5×30<br>12.5×35<br>16×25 | 0.030<br>0.027<br>0.028                | 0.075<br>0.068<br>0.070 | 1,917<br>1,980<br>1,863           | 2,130<br>2,200<br>2,070 | 12.5×40<br>16×31.5          | 0.024<br>0.025                         | 0.060<br>0.063          | 2,358<br>2,115                    | 2,620<br>2,350          | 16×40<br>18×35.5            | 0.021<br>0.023                         | 0.063<br>0.058          | 2,466<br>2,286                    | 2,740<br>2,540          |
| 2,200                          | 12.5×35<br>12.5×40<br>16×25 | 0.027<br>0.024<br>0.028                | 0.068<br>0.060<br>0.070 | 2,151<br>2,196<br>2,025           | 2,390<br>2,440<br>2,250 | 16×31.5<br>16×35.5          | 0.025<br>0.022                         | 0.063<br>0.055          | 2,295<br>2,295                    | 2,550<br>2,550          | 18×35.5<br>18×40            | 0.023<br>0.020                         | 0.058<br>0.050          | 2,349<br>2,385                    | 2,610<br>2,650          |
| 2,700                          | 16×31.5                     | 0.025                                  | 0.063                   | 2,115                             | 2,350                   | 16×35.5<br>16×40<br>18×35.5 | 0.022<br>0.018<br>0.021                | 0.055<br>0.045<br>0.053 | 2,394<br>2,610<br>2,448           | 2,660<br>2,900<br>2,720 |                             |  |                         |                                   |                         |
| 3,300                          | 16×31.5<br>16×35.5          | 0.025<br>0.022                         | 0.063<br>0.055          | 2,295<br>2,295                    | 2,550<br>2,550          | 18×35.5<br>18×40            | 0.021<br>0.017                         | 0.053<br>0.043          | 2,601<br>2,709                    | 2,890<br>3,010          |                             |  |                         |                                   |                         |
| 3,900                          | 16×35.5<br>16×40<br>18×35.5 | 0.022<br>0.018<br>0.021                | 0.055<br>0.045<br>0.053 | 2,394<br>2,610<br>2,448           | 2,660<br>2,900<br>2,720 | 18×40                       | 0.017                                  | 0.043                   | 2,934                             | 3,260                   |                             |  |                         |                                   |                         |
| 4,700                          | 18×35.5<br>18×40            | 0.021<br>0.017                         | 0.053<br>0.043          | 2,601<br>2,709                    | 2,890<br>3,010          |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         |
| 5,600                          | 18×40                       | 0.017                                  | 0.043                   | 2,934                             | 3,260                   |                             |  |                         |                                   |                         |                             |  |                         |                                   |                         |



Dimension:  $\phi D \times L(\text{mm})$   
 Dimension & Permissible Ripple Current      Ripple Current: mA/rms at 100k Hz, 105°C

| V. DC<br>Item<br>$\mu\text{F}$ | $\phi D \times L$ | 63V(1J)                                |       |                                   |         |
|--------------------------------|-------------------|--|-------|-----------------------------------|---------|
|                                |                   | Impedance<br>( $\Omega$ , Max/100k Hz) |       | Ripple Current<br>(mA/rms, 105°C) |         |
|                                |                   | 20°C                                   | -10°C | 120 Hz                            | 100k Hz |
| 12                             | 5×11              | 1.90                                   | 4.78  | 55                                | 100     |
| 27                             | 6.3×11            | 1.10                                   | 2.78  | 88                                | 160     |
| 33                             | 6.3×11            | 1.10                                   | 2.75  | 96                                | 175     |
| 39                             | 6.3×15            | 0.62                                   | 1.55  | 161                               | 230     |
| 47                             | 8×11.5            | 0.49                                   | 1.23  | 193                               | 275     |
| 56                             | 8×11.5            | 0.49                                   | 1.23  | 203                               | 290     |
|                                | 10×12.5           | 0.27                                   | 0.675 | 294                               | 420     |
| 68                             | 8×15              | 0.34                                   | 0.850 | 252                               | 360     |
|                                | 10×12.5           | 0.27                                   | 0.675 | 354                               | 505     |
|                                | 10×16             | 0.21                                   | 0.525 | 366                               | 523     |
| 82                             | 8×20              | 0.21                                   | 0.525 | 350                               | 500     |
| 100                            | 8×15              | 0.34                                   | 0.850 | 308                               | 440     |
| 120                            | 10×16             | 0.210                                  | 0.525 | 455                               | 650     |
|                                | 10×20             | 0.160                                  | 0.400 | 490                               | 700     |
| 150                            | 8×20              | 0.210                                  | 0.525 | 476                               | 680     |
|                                | 10×25             | 0.130                                  | 0.325 | 546                               | 780     |
| 180                            | 10×20             | 0.160                                  | 0.400 | 553                               | 790     |
|                                | 10×30             | 0.100                                  | 0.250 | 672                               | 960     |
| 220                            | 10×25             | 0.130                                  | 0.325 | 648                               | 925     |
|                                | 12.5×20           | 0.110                                  | 0.275 | 609                               | 870     |
| 270                            | 10×30             | 0.100                                  | 0.250 | 812                               | 1,160   |
|                                | 12.5×25           | 0.074                                  | 0.185 | 805                               | 1,150   |
| 330                            | 12.5×20           | 0.110                                  | 0.275 | 746                               | 1,065   |
| 390                            | 12.5×25           | 0.074                                  | 0.185 | 1,088                             | 1,280   |
|                                | 12.5×30           | 0.068                                  | 0.170 | 1,024                             | 1,360   |
| 470                            | 12.5×30           | 0.068                                  | 0.170 | 1,120                             | 1,360   |
|                                | 12.5×35           | 0.063                                  | 0.158 | 1,112                             | 1,400   |
|                                | 16×20             | 0.059                                  | 0.148 | 1,080                             | 1,350   |
|                                | 16×25             | 0.055                                  | 0.138 | 1,184                             | 1,480   |
| 560                            | 12.5×40           | 0.051                                  | 0.128 | 1,224                             | 1,530   |
|                                | 16×25             | 0.055                                  | 0.138 | 1,296                             | 1,620   |
| 680                            | 12.5×40           | 0.051                                  | 0.128 | 1,336                             | 1,670   |
|                                | 16×31.5           | 0.046                                  | 0.115 | 1,376                             | 1,720   |
| 820                            | 12.5×40           | 0.051                                  | 0.128 | 1,480                             | 1,850   |
|                                | 16×31.5           | 0.046                                  | 0.115 | 1,512                             | 1,890   |
|                                | 16×35.5           | 0.040                                  | 0.100 | 1,528                             | 1,910   |
| 1,000                          | 16×35.5           | 0.040                                  | 0.100 | 1,576                             | 1,970   |
|                                | 18×35.5           | 0.040                                  | 0.100 | 1,688                             | 2,110   |
| 1,500                          | 18×35.5           | 0.040                                  | 0.100 | 2,169                             | 2,410   |

## Part Numbering System

|            |                   |                       |               |                              |             |                       |                           |
|------------|-------------------|-----------------------|---------------|------------------------------|-------------|-----------------------|---------------------------|
| RXK series | 470 $\mu\text{F}$ | $\pm 20\%$            | 6.3V          | Bulk Package                 | Gas Type    | 8 $\phi \times 11.5L$ | Pb-free and PET sleeve    |
| <b>RXK</b> | <b>471</b>        | <b>M</b>              | <b>0J</b>     | <b>BK</b>                    | -           | <b>0811</b>           |                           |
| Series     | Capacitance       | Capacitance Tolerance | Rated Voltage | Lead Configuration & Package | Rubber Type | Case Size             | Lead Wire and Sleeve type |

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 10.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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