



## RXQ Series

### Features

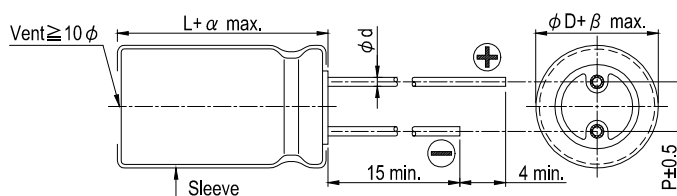
- 105°C, 8,000 ~ 10,000 hours assured
- Suitable for switching power supplies, UPS, Ballast
- Smaller case size current
- RoHS compliant
- AEC-Q200 compliant. Please contact us for details.



### Specifications

|                                             |                                                                                                                                                                                                                                                                      |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------|--------------|---------|-----|---------------|-----|-----|-----|-----|-----|-----|-------------|------|------|------|------|------|------|
| Items                                       | Performance                                                                                                                                                                                                                                                          |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Category Temperature Range                  | 160 ~ 400V                                                                                                                                                                                                                                                           |                                                                       |                                                            |                                   | 450V         |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | -40℃ ~ +105℃                                                                                                                                                                                                                                                         |                                                                       |                                                            |                                   | -25℃ ~ +105℃ |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Capacitance Tolerance                       | ± 20% (at 120 Hz, 20℃)                                                                                                                                                                                                                                               |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Leakage Current (at 20℃)                    | Time                                                                                                                                                                                                                                                                 |                                                                       | after 5 minutes                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Leakage Current                                                                                                                                                                                                                                                      | CV ≤ 1,000<br>I = 0.03CV + 15(μA)                                     |                                                            | CV > 1,000<br>I = 0.02CV + 25(μA) |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             |                                                                                                                                                                                                                                                                      | Where, C = rated capacitance in μF, V = rated DC working voltage in V |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Tanδ (at 120 Hz, 20℃)                       | <table><tr><td>Rated Voltage</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>Tanδ (max.)</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.24</td><td>0.24</td><td>0.24</td></tr></table>                                    |                                                                       |                                                            |                                   |              |         |     | Rated Voltage | 160 | 200 | 250 | 350 | 400 | 450 | Tanδ (max.) | 0.20 | 0.20 | 0.20 | 0.24 | 0.24 | 0.24 |
| Rated Voltage                               | 160                                                                                                                                                                                                                                                                  | 200                                                                   | 250                                                        | 350                               | 400          | 450     |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Tanδ (max.)                                 | 0.20                                                                                                                                                                                                                                                                 | 0.20                                                                  | 0.20                                                       | 0.24                              | 0.24         | 0.24    |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Low Temperature Characteristics (at 120 Hz) | Impedance ratio shall not exceed the values given in the table below.                                                                                                                                                                                                |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Rated Voltage                                                                                                                                                                                                                                                        |                                                                       | 160                                                        | 200                               | 250          | 350     | 400 | 450           |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Impedance Ratio                                                                                                                                                                                                                                                      | Z(-25℃) / Z(+20℃)                                                     | 3                                                          | 3                                 | 3            | 5       | 5   | 6             |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Z(-40℃) / Z(+20℃)                           |                                                                                                                                                                                                                                                                      | 6                                                                     | 6                                                          | 6                                 | 6            | 6       | -   |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Endurance                                   | Test Time                                                                                                                                                                                                                                                            |                                                                       | 8,000 Hrs for ϕ D = 10 mm;<br>10,000 Hrs for ϕ D ≥ 12.5 mm |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Capacitance Change                                                                                                                                                                                                                                                   |                                                                       | Within ± 20% of initial value                              |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Tanδ                                                                                                                                                                                                                                                                 |                                                                       | Less than 200% of specified value                          |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Leakage Current                                                                                                                                                                                                                                                      |                                                                       | Within specified value                                     |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 8,000 / 10,000 hours at 105℃.                                                                                    |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Shelf Life Test                             | Test Time                                                                                                                                                                                                                                                            |                                                                       | 1,000 Hrs                                                  |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Capacitance Change                                                                                                                                                                                                                                                   |                                                                       | Within ± 20% of initial value                              |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Tanδ                                                                                                                                                                                                                                                                 |                                                                       | Less than 200% of specified value                          |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Leakage Current                                                                                                                                                                                                                                                      |                                                                       | Within specified value                                     |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | * The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1). |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
| Ripple Current and Frequency Multipliers    | Frequency (Hz)                                                                                                                                                                                                                                                       |                                                                       | 120                                                        | 1k                                | 10k          | 100k up |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | Cap. (μF)                                                                                                                                                                                                                                                            |                                                                       |                                                            |                                   |              |         |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | 6.8 ~ 82                                                                                                                                                                                                                                                             |                                                                       | 1.00                                                       | 1.75                              | 2.25         | 2.50    |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |
|                                             | 100 ≤                                                                                                                                                                                                                                                                |                                                                       | 1.00                                                       | 1.67                              | 2.05         | 2.25    |     |               |     |     |     |     |     |     |             |      |      |      |      |      |      |

### Diagram of Dimensions

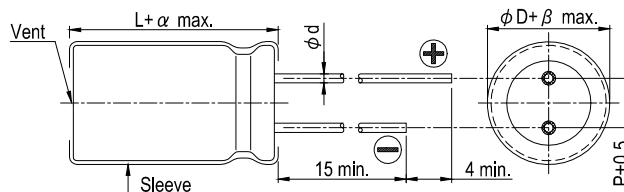


### Lead Spacing and Diameter

Unit: mm

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

The case size of 16×20, 18×20 and 18×25 are suitable for below diagram:





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

Ripple Current: mA/rms at 105°C

## Dimension and Permissible Ripple Current

| Rated Volt.<br>(V <sub>DC</sub> )<br>Contents<br>Cap.( $\mu\text{F}$ ) | 160V (2C)         |                |                | 200V (2D)         |                |         | 250V (2E)         |                |         | 350V (2V)         |                |                | 400V (2G)         |                |                |
|------------------------------------------------------------------------|-------------------|----------------|----------------|-------------------|----------------|---------|-------------------|----------------|---------|-------------------|----------------|----------------|-------------------|----------------|----------------|
|                                                                        | $\phi D \times L$ | Ripple Current |                | $\phi D \times L$ | Ripple Current |         | $\phi D \times L$ | Ripple Current |         | $\phi D \times L$ | Ripple Current |                | $\phi D \times L$ | Ripple Current |                |
|                                                                        |                   | 120 Hz         | 100k Hz        |                   | 120 Hz         | 100k Hz |                   | 120 Hz         | 100k Hz |                   | 120 Hz         | 100k Hz        |                   | 120 Hz         | 100k Hz        |
| 6.8                                                                    |                   |                |                |                   |                |         |                   |                |         | 10×16             | 110            | 275            | 10×16             | 110            | 275            |
| 10                                                                     | 10×12.5           | 100            | 250            | 10×16             | 125            | 313     | 10×20             | 140            | 350     | 10×20             | 140            | 350            | 10×20             | 140            | 350            |
| 22                                                                     | 10×16<br>10×20    | 170<br>200     | 425<br>500     | 10×20             | 200            | 500     | 10×20             | 200            | 500     | 12.5×20           | 260            | 650            | 12.5×20           | 260            | 650            |
| 33                                                                     | 10×20             | 250            | 625            | 10×20             | 260            | 650     | 12.5×20           | 320            | 800     | 16×20             | 360            | 900            | 16×20             | 360            | 900            |
| 47                                                                     | 10×20             | 300            | 750            | 12.5×20           | 390            | 975     | 12.5×20           | 390            | 975     | 16×20             | 430            | 1,075          | 16×25<br>18×20    | 470<br>450     | 1,175<br>1,125 |
| 68                                                                     | 12.5×20           | 470            | 1,175          | 12.5×20           | 470            | 1,175   | 16×20             | 520            | 1,300   | 16×25<br>18×20    | 560<br>550     | 1,400<br>1,375 | 18×25             | 585            | 1,463          |
| 82                                                                     | 12.5×20           | 510            | 1,275          | 16×20             | 550            | 1,375   | 16×20             | 550            | 1,375   | 18×25             | 610            | 1,525          | 18×25             | 610            | 1,525          |
| 100                                                                    | 12.5×25<br>16×20  | 620<br>630     | 1,395<br>1,418 | 16×20             | 630            | 1,418   | 16×25             | 680            | 1,530   | 18×25             | 700            | 1,575          | 18×31.5           | 765            | 1,721          |
| 120                                                                    |                   |                |                |                   |                |         |                   |                |         | 18×31.5           | 830            | 1,868          | 18×35.5           | 865            | 1,946          |
| 150                                                                    | 16×25             | 770            | 1,733          | 16×25             | 840            | 1,890   | 18×25             | 860            | 1,935   | 18×35.5           | 960            | 2,160          | 18×40             | 985            | 2,216          |
| 220                                                                    | 16×31.5           | 1,020          | 2,295          | 18×25             | 1,050          | 2,363   | 18×31.5           | 1,130          | 2,543   |                   |                |                |                   |                |                |
| 330                                                                    | 18×35.5           | 1,390          | 3,128          | 18×35.5           | 1,430          | 3,218   |                   |                |         |                   |                |                |                   |                |                |

| Rated Volt.<br>(V <sub>DC</sub> )<br>Contents<br>Cap.( $\mu\text{F}$ ) | 450V (2W)         |                |            |
|------------------------------------------------------------------------|-------------------|----------------|------------|
|                                                                        | $\phi D \times L$ | Ripple Current |            |
|                                                                        |                   | 120 Hz         | 100k Hz    |
| 6.8                                                                    | 10×20             | 110            | 275        |
| 10                                                                     | 12.5×20           | 180            | 450        |
| 22                                                                     | 16×20             | 290            | 725        |
| 33                                                                     | 16×25<br>18×20    | 390<br>380     | 975<br>950 |
| 47                                                                     | 18×25             | 480            | 1,200      |
| 68                                                                     | 18×31.5           | 630            | 1,575      |
| 82                                                                     | 18×35.5           | 715            | 1,788      |
| 100                                                                    | 18×40             | 800            | 1,800      |

## Part Numbering System

|             |                  |                       |               |                                |             |                   |                 |
|-------------|------------------|-----------------------|---------------|--------------------------------|-------------|-------------------|-----------------|
| RXQ Series  | 10 $\mu\text{F}$ | ± 20%                 | 450V          | Bulk Package                   | Gas Type    | 12.5 $\phi$ × 20L | General Purpose |
| <b>RXQ</b>  | <b>100</b>       | <b>M</b>              | <b>2W</b>     | <b>BK</b>                      | <b>-</b>    | <b>1320</b>       |                 |
| Series Name | Capacitance      | Capacitance Tolerance | Rated Voltage | Lead Configuration and Package | Rubber Type | Case Size         | Application     |

Note: For more details, please refer to "Part Numbering System - Radial Type" on page 141.