



RXC Series

Features

- 105°C, 2,000 ~ 3,000 hours assured
- Low ESR, suitable for switching power supplies, UPS
- Smaller size with large permissible ripple current
- RoHS Compliance

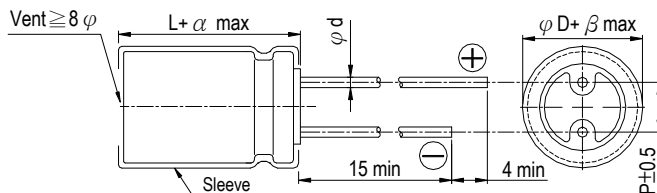


Sleeve & Marking Color: Brown & White

Specifications

| Items  | Performance  |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|--|--|---|------------------------------|------------------------------|------|------|-----|-----|-----------------|-------------------|---|---|---|---|---|---|-------------------|---|---|---|---|---|---|--|--|--|--|--|
| Category Temperature Range   | 160 ~ 400V   | 450V  |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | -40°C ~ +105°C   | -25°C ~ +105°C  |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Capacitance Tolerance  | ±20% (at 120Hz, 20°C)  |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Leakage Current (at 20°C)  | Time   | After 5 minutes   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Leakage Current  | <table border="1"> <tr> <td>CV ≤ 1,000<br/>I = 0.03CV(μA)</td> <td>CV &gt; 1,000<br/>I = 0.02CV(μA)</td> </tr> </table> | CV ≤ 1,000<br>I = 0.03CV(μA) | CV > 1,000<br>I = 0.02CV(μA) |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| CV ≤ 1,000<br>I = 0.03CV(μA)   | CV > 1,000<br>I = 0.02CV(μA)   |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Tanδ (at 120Hz, 20°C)  | 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 120Hz)   | Impedance ratio shall not exceed the values given in the table below.  |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | <table border="1"> <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 rowspan="2">Impedance Ratio</td> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>6</td> <td>-</td> </tr> </table> | Rated Voltage   | 160                          | 200                          | 250  | 350  | 400 | 450 | Impedance Ratio | Z(-25°C)/Z(+20°C) | 3 | 3 | 3 | 3 | 5 | 6 | Z(-40°C)/Z(+20°C) | 4 | 4 | 4 | 4 | 6 | - |  |  |  |  |  |
| Rated Voltage  | 160  | 200   | 250                          | 350                          | 400  | 450  |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Impedance Ratio  | Z(-25°C)/Z(+20°C)  | 3   | 3                            | 3                            | 3    | 5    | 6   |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Z(-40°C)/Z(+20°C)  | 4   | 4                            | 4                            | 4    | 6    | -   |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Endurance  | Test Time  | 2,000 Hrs for φD ≤ 10 mm;<br>3,000 Hrs for φD ≥ 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°C after the rated voltage applied with rated ripple current for 2,000 ~ 3,000 hours at 105°C.   |  |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Shelf Life Test  | Test Time  | 1,000 Hrs   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Capacitance Change   | Within ±20% of initial value  |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Tanδ   | Less than 200% of specified value   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Leakage Current  | Less than 500% of specified value   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| * 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. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1). |  |   |                              |                              |      |      |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
| Ripple Current & Frequency Multipliers   | Freq.(Hz)  |   | 120                          | 1k                           | 10k  | 100k |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  | Cap. (μF)  | 1 to 82   | 1.00                         | 1.20                         | 1.40 | 1.50 |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |
|  |  | 100 up  | 1.00                         | 1.18                         | 1.35 | 1.45 |     |     |                 |                   |   |   |   |   |   |   |                   |   |   |   |   |   |   |  |  |  |  |  |

Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

|    |                          |     |      |     |     |
|----|--------------------------|-----|------|-----|-----|
| φD | 8                        | 10  | 12.5 | 16  | 18  |
| P  | 3.5                      | 5.0 | 5.0  | 7.5 | 7.5 |
| φd | 0.6                      |     |      | 0.8 |     |
| α  | L < 20: 1.5, L ≥ 20: 2.0 |     |      |     |     |
| β  | 0.5                      |     |      |     |     |



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

Ripple Current: mA/rms, 105°C

Dimension & Permissible Ripple Current

| V.DC<br>Contents<br>$\mu\text{F}$ | 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 |  |
| 2.2                               |                   |                |         |                   |                |         |                   |                |         | 10×12.5           | 55             | 83      | 10×16             | 66             | 99      |  |
| 3.3                               | 8×11.5            | 48             | 72      | 8×11.5            | 52             | 78      | 10×12.5           | 80             | 120     | 10×16             | 75             | 113     | 10×20             | 85             | 128     |  |
| 4.7                               | 8×11.5            | 58             | 87      | 10×12.5           | 88             | 132     | 10×16             | 105            | 158     | 10×20             | 120            | 180     | 10×20             | 100            | 150     |  |
| 10                                | 10×16             | 100            | 150     | 10×16             | 125            | 188     | 10×20             | 165            | 248     | 10×20             | 150            | 225     | 10×20             | 145            | 218     |  |
| 22                                | 10×16             | 155            | 233     | 10×20             | 170            | 255     | 12.5×20           | 240            | 360     | 12.5×20           | 240            | 360     | 12.5×25           | 260            | 390     |  |
| 33                                | 10×20             | 220            | 330     | 12.5×20           | 275            | 415     | 12.5×25           | 365            | 550     | 12.5×25           | 300            | 450     | 12.5×25           | 285            | 430     |  |
| 47                                | 12.5×25           | 340            | 510     | 12.5×20           | 295            | 445     | 12.5×25           | 390            | 585     | 16×25             | 410            | 615     | 16×31.5           | 445            | 665     |  |
| 68                                | 12.5×25           | 385            | 580     | 12.5×25           | 395            | 595     | 16×25             | 485            | 730     | 16×31.5           | 485            | 730     | 16×31.5           | 490            | 735     |  |
| 100                               | 12.5×25           | 450            | 655     | 16×25             | 550            | 800     | 16×31.5           | 630            | 915     | 16×31.5           | 520            | 755     | 18×31.5           | 610            | 885     |  |
| 150                               | 16×25             | 610            | 885     | 16×31.5           | 720            | 1,045   | 18×31.5           | 780            | 1,130   |                   |                |         |                   |                |         |  |
| 220                               | 16×31.5           | 755            | 1,095   | 18×35.5           | 900            | 1,305   | 18×40             | 970            | 1,405   |                   |                |         |                   |                |         |  |
| 330                               | 18×35.5           | 940            | 1,360   |                   |                |         |                   |                |         |                   |                |         |                   |                |         |  |

| V.DC<br>Contents<br>$\mu\text{F}$ | 450V (2W)         |                |         |
|-----------------------------------|-------------------|----------------|---------|
|                                   | $\phi D \times L$ | Ripple Current |         |
|                                   |                   | 120 Hz         | 100k Hz |
| 1.5                               | 10×12.5           | 50             | 75      |
| 2.2                               | 10×16             | 68             | 102     |
| 3.3                               | 10×20             | 88             | 132     |
| 4.7                               | 12.5×20           | 140            | 210     |
| 10                                | 12.5×25           | 200            | 300     |
| 22                                | 16×25             | 305            | 460     |
| 33                                | 16×31.5           | 410            | 615     |
| 47                                | 18×31.5           | 495            | 745     |
| 68                                | 18×35.5           | 540            | 810     |

Part Numbering System

RXC series    22 $\mu\text{F}$      $\pm 20\%$     450V    Bulk Package    Gas Type    16 $\phi \times 25\text{L}$     Pb-free and PET coating case

**RXC**    **220**    **M**    **2W**    **BK**    -    **1625**

Series    Capacitance    Capacitance Tolerance    Rated Voltage    Lead Configuration & Package    Rubber Type    Case Size    Lead Wire and Coating Type

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