



REA Series

Features

- 85°C, 2,000 ~ 3,000 hours assured
- Standard series for general purposes
- RoHS Compliance



Sleeve & Marking Color: Blue & Black

Specifications

| Items                                      | Performance  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|--|--|--|---|--------------------|-------------------------------|-----------------|-----------------------------------|-----------------|---|--|------|------|------|------|-----------------|------|------------|-----------------|----------|----------|----------------|------|------|------|------|------|------|------|------|------|------|----|----|-----------|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----------|----------|----|---|---|---|---|---|---|---|---|----|----|----|----|-----------|----------|----|----|----|----|---|---|---|---|---|----|----|----|----|
| Category Temperature Range                 | -40°C ~ +85°C  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Capacitance Tolerance                      | ±20% (at 120Hz, 20°C)  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Leakage Current (at 20°C)                  | <table border="1"> <tr> <td>Rated voltage</td> <td>≤ 100V</td> <td>&gt; 100V</td> </tr> <tr> <td>Time</td> <td>after 2 minutes</td> <td>after 5 minutes</td> </tr> <tr> <td>Leakage Current</td> <td>I = 0.01CV or 3 (μA) whichever is greater</td> <td>CV ≤ 1,000<br/>I = 0.03CV + 15(μA)<br/>CV &gt; 1,000<br/>I = 0.02CV + 25(μA)</td> </tr> </table> <p>Where, C = rated capacitance in μF V = rated DC working voltage in V</p>   | Rated voltage  | ≤ 100V  | > 100V             | Time                          | after 2 minutes | after 5 minutes                   | Leakage Current | I = 0.01CV or 3 (μA) whichever is greater | CV ≤ 1,000<br>I = 0.03CV + 15(μA)<br>CV > 1,000<br>I = 0.02CV + 25(μA) |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Rated voltage                              | ≤ 100V   | > 100V   |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Time                                       | after 2 minutes  | after 5 minutes  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Leakage Current                            | I = 0.01CV or 3 (μA) whichever is greater  | CV ≤ 1,000<br>I = 0.03CV + 15(μA)<br>CV > 1,000<br>I = 0.02CV + 25(μA) |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Tanδ (at 120 Hz, 20°C)                     | <table border="1"> <tr> <td>Rated Voltage</td> <td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</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>0.23</td><td>0.20</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td><td>0.12</td><td>0.14</td><td>0.17</td><td>0.20</td><td>0.25</td><td>0.25</td> </tr> </table> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>  | Rated Voltage  | 6.3   | 10                 | 16                            | 25              | 35                                | 50              | 63  | 100  | 160  | 200  | 250  | 350  | 400             | 450  | Tanδ (max) | 0.23            | 0.20     | 0.16     | 0.14           | 0.12 | 0.10 | 0.09 | 0.08 | 0.12 | 0.14 | 0.17 | 0.20 | 0.25 | 0.25 |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Rated Voltage                              | 6.3  | 10   | 16  | 25                 | 35                            | 50              | 63                                | 100             | 160                                       | 200  | 250  | 350  | 400  | 450  |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Tanδ (max)                                 | 0.23   | 0.20   | 0.16  | 0.14               | 0.12                          | 0.10            | 0.09                              | 0.08            | 0.12                                      | 0.14   | 0.17 | 0.20 | 0.25 | 0.25 |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <tr> <td colspan="2">Rated Voltage</td> <td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td> </tr> <tr> <td rowspan="4">Impedance Ratio</td> <td>Z(-25°C)</td> <td>φ D &lt; 16</td><td>6</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>3</td><td>6</td><td>8</td><td>12</td><td>14</td><td>16</td> </tr> <tr> <td>/Z(+20°C)</td> <td>φ D ≥ 16</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>4</td><td>8</td><td>10</td><td>16</td><td>18</td><td>20</td> </tr> <tr> <td>Z(-40°C)</td> <td>φ D &lt; 16</td><td>10</td><td>8</td><td>6</td><td>6</td><td>4</td><td>3</td><td>3</td><td>4</td><td>8</td><td>10</td><td>16</td><td>18</td><td>20</td> </tr> <tr> <td>/Z(+20°C)</td> <td>φ D ≥ 16</td><td>18</td><td>16</td><td>12</td><td>10</td><td>8</td><td>8</td><td>6</td><td>6</td><td>8</td><td>10</td><td>16</td><td>18</td><td>20</td> </tr> </table> | Rated Voltage  |   | 6.3                | 10                            | 16              | 25                                | 35              | 50  | 63   | 100  | 160  | 200  | 250  | 350             | 400  | 450        | Impedance Ratio | Z(-25°C) | φ D < 16 | 6              | 4    | 3    | 3    | 2    | 2    | 2    | 3    | 6    | 8    | 12   | 14 | 16 | /Z(+20°C) | φ D ≥ 16 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 4 | 8 | 10 | 16 | 18 | 20 | Z(-40°C) | φ D < 16 | 10 | 8 | 6 | 6 | 4 | 3 | 3 | 4 | 8 | 10 | 16 | 18 | 20 | /Z(+20°C) | φ D ≥ 16 | 18 | 16 | 12 | 10 | 8 | 8 | 6 | 6 | 8 | 10 | 16 | 18 | 20 |
| Rated Voltage                              |  | 6.3  | 10  | 16                 | 25                            | 35              | 50                                | 63              | 100                                       | 160  | 200  | 250  | 350  | 400  | 450             |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Impedance Ratio                            | Z(-25°C)   | φ D < 16   | 6   | 4                  | 3                             | 3               | 2                                 | 2               | 2   | 3  | 6    | 8    | 12   | 14   | 16              |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|  | /Z(+20°C)  | φ D ≥ 16   | 8   | 6                  | 4                             | 4               | 3                                 | 3               | 3   | 4  | 8    | 10   | 16   | 18   | 20              |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|  | Z(-40°C)   | φ D < 16   | 10  | 8                  | 6                             | 6               | 4                                 | 3               | 3   | 4  | 8    | 10   | 16   | 18   | 20              |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|  | /Z(+20°C)  | φ D ≥ 16   | 18  | 16                 | 12                            | 10              | 8                                 | 8               | 6   | 6  | 8    | 10   | 16   | 18   | 20              |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Endurance                                  | <table border="1"> <tr> <td>Test Time</td> <td>2,000 Hrs for φD ≤ 8mm<br/>3,000 Hrs for φD ≥ 10mm</td> </tr> <tr> <td>Capacitance Change</td> <td>With in ±20% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <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 / 3,000 hours at 85°C.</p>   | Test Time  | 2,000 Hrs for φD ≤ 8mm<br>3,000 Hrs for φD ≥ 10mm | Capacitance Change | With in ±20% of initial value | Tanδ            | Less than 200% of specified value | Leakage Current | Within specified value                    |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Test Time                                  | 2,000 Hrs for φD ≤ 8mm<br>3,000 Hrs for φD ≥ 10mm  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Capacitance Change                         | With in ±20% of initial value  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Tanδ                                       | Less than 200% of specified value  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Leakage Current                            | Within specified value   |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Shelf Life Test                            | <table border="1"> <tr> <td>Test Time</td> <td>1,000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>With in ±20% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <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 85°C without voltage applied. The rated voltage shall be applied to the capacitors before the measurements for 160 ~ 450V (Refer to JIS C 5101-4 4.1).</p>   | Test Time  | 1,000 Hrs   | Capacitance Change | With in ±20% of initial value | Tanδ            | Less than 200% of specified value | Leakage Current | Within specified value                    |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Test Time                                  | 1,000 Hrs  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Capacitance Change                         | With in ±20% of initial value  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Tanδ                                       | Less than 200% of specified value  |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Leakage Current                            | Within specified value   |  |   |                    |                               |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Ripple Current & Frequency Multipliers     | <table border="1"> <tr> <td rowspan="3">Cap. (μF)</td> <td>Freq. (Hz)</td> <td>60 (50)</td><td>120</td><td>500</td><td>1k</td><td>10k up</td> </tr> <tr> <td>Under 100</td> <td>0.70</td><td>1.00</td><td>1.30</td><td>1.40</td><td>1.50</td> </tr> <tr> <td>100 &lt; C ≤ 1,000</td> <td>0.75</td><td>1.00</td><td>1.20</td><td>1.30</td><td>1.35</td> </tr> <tr> <td>1,000 up above</td> <td>0.80</td><td>1.00</td><td>1.10</td><td>1.12</td><td>1.15</td> </tr> </table>   | Cap. (μF)  | Freq. (Hz)  | 60 (50)            | 120                           | 500             | 1k                                | 10k up          | Under 100                                 | 0.70   | 1.00 | 1.30 | 1.40 | 1.50 | 100 < C ≤ 1,000 | 0.75 | 1.00       | 1.20            | 1.30     | 1.35     | 1,000 up above | 0.80 | 1.00 | 1.10 | 1.12 | 1.15 |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| Cap. (μF)                                  | Freq. (Hz)   |  | 60 (50)   | 120                | 500                           | 1k              | 10k up                            |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|  | Under 100  |  | 0.70  | 1.00               | 1.30                          | 1.40            | 1.50                              |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
|  | 100 < C ≤ 1,000  | 0.75   | 1.00  | 1.20               | 1.30                          | 1.35            |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |
| 1,000 up above                             | 0.80   | 1.00   | 1.10  | 1.12               | 1.15                          |                 |                                   |                 |   |  |      |      |      |      |                 |      |            |                 |          |          |                |      |      |      |      |      |      |      |      |      |      |    |    |           |          |   |   |   |   |   |   |   |   |   |    |    |    |    |          |          |    |   |   |   |   |   |   |   |   |    |    |    |    |           |          |    |    |    |    |   |   |   |   |   |    |    |    |    |

Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

|    |                          |     |     |     |      |     |     |     |      |
|----|--------------------------|-----|-----|-----|------|-----|-----|-----|------|
| φD | 5                        | 6.3 | 8   | 10  | 12.5 | 16  | 18  | 22  | 25   |
| P  | 2.0                      | 2.5 | 3.5 | 5.0 | 5.0  | 7.5 | 7.5 | 10  | 12.5 |
| φd | 0.5                      |     | 0.6 |     | 0.8  |     | 1.0 |     |      |
| α  | L < 20: 1.5, L ≥ 20: 2.0 |     |     |     |      |     |     | 2.0 |      |
| β  | 0.5                      |     |     |     |      |     |     |     |      |

The case size of 12.5×16, 16×16, 16×20, 18×16, 18×20 and 18×25 are suitable for below diagram:





Dimension:  $\phi D \times L$ (mm)  
Ripple Current: mA/rms at 120 Hz, 85°C

Dimension & Permissible Ripple Current

| $\mu F$ | V. DC Contents | 6.3V (0J)         |       | 10V (1A)          |       | 16V (1C)          |       | 25V (1E)          |       | 35V (1V)          |       | 50V (1H)          |       | 63V (1J)          |       | 100V (2A)         |       |
|---------|----------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
|         |                | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    |
| 2.2     | 2R2            |                   |       |                   |       |                   |       |                   |       |                   |       | 5×11              | 29    |                   |       | 5×11              | 33    |
| 3.3     | 3R3            |                   |       |                   |       |                   |       |                   |       |                   |       | 5×11              | 35    |                   |       | 5×11              | 40    |
| 4.7     | 4R7            |                   |       |                   |       |                   |       |                   |       |                   |       | 5×11              | 42    |                   |       | 5×11              | 48    |
| 10      | 100            |                   |       |                   |       |                   |       |                   |       |                   |       | 5×11              | 65    | 5×11              | 70    | 5×11              | 59    |
| 22      | 220            |                   |       |                   |       |                   |       |                   |       |                   |       | 5×11              | 95    | 6.3×11            | 115   | 6.3×11            | 115   |
| 33      | 330            |                   |       |                   |       |                   |       |                   |       | 5×11              | 108   | 6.3×11            | 136   | 6.3×11            | 140   | 8×11.5            | 145   |
| 47      | 470            |                   |       |                   |       |                   |       | 5×11              | 115   | 5×11              | 130   | 6.3×11            | 165   | 6.3×11            | 170   | 10×12.5           | 235   |
| 100     | 101            |                   |       |                   |       | 5×11              | 160   | 6.3×11            | 190   | 6.3×11            | 210   | 8×11.5            | 260   | 8×11.5            | 245   | 10×16             | 325   |
| 220     | 221            |                   |       | 5×11              | 220   | 6.3×11            | 260   | 8×11.5            | 320   | 8×11.5            | 385   | 10×12.5           | 455   | 10×16             | 490   | 12.5×20           | 640   |
| 330     | 331            |                   |       | 6.3×11            | 290   | 6.3×11            | 290   | 8×11.5            | 440   | 10×12.5           | 490   | 10×16             | 585   | 10×20             | 710   | 16×20             | 695   |
| 470     | 471            |                   |       | 6.3×11            | 350   | 8×11.5            | 440   | 10×12.5           | 545   | 10×16             | 740   | 10×20             | 755   | 16×16             | 910   | 16×25             | 910   |
| 1,000   | 102            | 8×11.5            | 540   | 10×12.5           | 650   | 10×12.5           | 635   | 10×20             | 955   | 12.5×20           | 1,145 | 12.5×25           | 1,340 | 16×20             | 1,260 | 18×40             | 1,820 |
| 2,200   | 222            | 10×16             | 845   | 10×20             | 1,070 | 12.5×16           | 930   | 12.5×25           | 1,540 | 16×20             | 1,390 | 16×35.5           | 1,960 | 18×31.5           | 2,040 |                   |       |
| 3,300   | 332            | 10×20             | 1,185 | 12.5×20           | 1,420 | 12.5×20           | 1,450 | 16×20             | 1,490 | 16×31.5           | 2,070 | 18×35.5           | 2,500 | 18×40             | 2,575 |                   |       |
| 4,700   | 472            | 12.5×20           | 1,545 | 12.5×25           | 1,780 | 16×16             | 1,420 | 16×20             | 1,600 | 16×25             | 2,100 | 18×25             | 2,170 | 18×35.5           | 2,700 | 22×40             | 3,040 |
| 6,800   | 682            | 12.5×25           | 1,880 | 16×20             | 1,700 | 18×20             | 1,870 | 16×25             | 2,280 | 16×35.5           | 2,475 | 18×31.5           | 2,550 | 22×40             | 2,900 | 22×45             | 3,185 |
| 10,000  | 103            | 16×20             | 2,000 | 16×25             | 2,150 | 18×31.5           | 2,590 | 18×40             | 3,080 | 22×45             | 3,400 |                   |       |                   |       |                   |       |
| 15,000  | 153            | 16×31.5           | 2,460 | 18×25             | 2,020 | 18×25             | 2,370 | 16×35.5           | 2,450 | 22×45             | 3,780 |                   |       |                   |       |                   |       |
| 22,000  | 223            | 18×31.5           | 2,780 | 18×40             | 2,730 | 18×31.5           | 2,620 | 18×40             | 3,100 | 25×40             | 3,850 |                   |       |                   |       |                   |       |
| 33,000  | 333            | 22×40             | 3,700 |                   |       |                   |       |                   |       |                   |       |                   |       |                   |       |                   |       |

| $\mu F$ | V. DC Contents | 160V (2C)         |       | 200V (2D)         |       | 250V (2E)         |       | 350V (2V)         |       | 400V (2G)         |     | 450V (2W)         |       |
|---------|----------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-----|-------------------|-------|
|         |                | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA    | $\phi D \times L$ | mA  | $\phi D \times L$ | mA    |
| 1       | 010            |                   |       |                   |       | 5×11              | 18    | 5×11              | 18    | 5×11              | 22  | 6.3×11            | 25    |
| 2.2     | 2R2            |                   |       | 5×11              | 29    | 6.3×11            | 33    | 6.3×11            | 33    | 6.3×11            | 33  | 8×11.5            | 45    |
| 3.3     | 3R3            |                   |       | 6.3×11            | 46    | 6.3×11            | 46    | 8×11.5            | 50    | 8×11.5            | 50  | 10×12.5           | 65    |
| 4.7     | 4R7            |                   |       | 6.3×11            | 50    | 8×11.5            | 55    | 8×11.5            | 60    | 8×11.5            | 55  | 8×11.5            | 55    |
| 10      | 100            | 8×11.5            | 75    | 8×11.5            | 81    | 10×12.5           | 100   | 10×16             | 110   | 10×16             | 110 | 10×20             | 140   |
| 22      | 220            | 10×12.5           | 130   | 10×12.5           | 135   | 10×16             | 150   | 12.5×16           | 185   | 12.5×20           | 200 | 12.5×25           | 300   |
| 33      | 330            | 10×16             | 175   | 10×16             | 180   | 10×20             | 215   | 12.5×20           | 245   | 16×16             | 260 | 16×20             | 270   |
| 47      | 470            | 10×20             | 230   | 10×20             | 240   | 12.5×16           | 220   | 16×20             | 340   | 16×20             | 340 | 16×31.5           | 390   |
| 68      | 680            | 12.5×20           | 330   | 12.5×20           | 330   | 12.5×25           | 370   | 16×25             | 420   | 16×31.5           | 435 | 16×35.5           | 460   |
| 100     | 101            | 12.5×25           | 440   | 16×20             | 460   | 16×25             | 510   | 16×31.5           | 540   | 16×40             | 560 | 18×35.5           | 570   |
| 150     | 151            | 16×25             | 620   | 16×25             | 620   | 16×31.5           | 625   | 18×25             | 630   | 18×35.5           | 640 | 18×40             | 670   |
| 220     | 221            | 16×31.5           | 790   | 16×35.5           | 830   | 16×40             | 840   | 22×40             | 920   | 22×45             | 960 | 25×45             | 1,030 |
| 330     | 331            | 18×35.5           | 985   | 18×40             | 1,150 | 22×40             | 1,200 | 25×45             | 1,270 |                   |     |                   |       |
| 470     | 471            | 18×40             | 1,150 | 22×40             | 1,400 | 22×45             | 1,470 |                   |       |                   |     |                   |       |

Part Numbering System

REA series    470 $\mu F$      $\pm 20\%$     16V    Bulk Package    Gas Type    8  $\phi \times 11.5L$     Pb-free and PET sleeve

**REA**    **471**    **M**    **1C**    **BK**    -    **0811**

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.