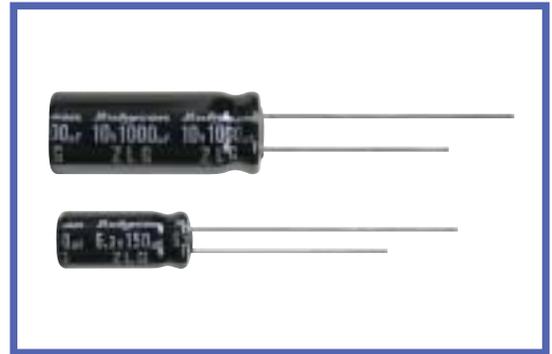


**ZLG SERIES**
**Load Life: 105°C 1000 ~ 5000hours. Ultra Low impedance.**
**◆ FEATURES**

- Extremely reduced impedance at high frequency range than ZL series.
- Load Life : 105°C 1000 ~ 5000hours.
- RoHS compliance.


**◆ SPECIFICATIONS**

| Items  | Characteristics   |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
|--|---|---|-----------------------------------|---|-----------------|-----------------|------|--------------|------------------|---------|------|-------|------|--------|------|------------------|------|--------------------|--|-----------------|------------------------------------|--|
| Category Temperature Range                     | -40 ~ +105°C  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Rated Voltage Range                            | 6.3 ~ 35V.DC  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Capacitance Tolerance                          | ±20% (20°C, 120Hz)  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Leakage Current(MAX)                           | I=0.03CV or 3 µ A whichever is greater. (After 2 minutes)<br>I=Leakage Current( µ A)      C=Rated Capacitance( µ F)      V=Rated Voltage(V)   |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Dissipation Factor(MAX) (tanδ)                 | <table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>(20°C,120Hz)</td> </tr> <tr> <td>tanδ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td></td> </tr> </table> <p>When nominal capacitance is over 1000 µ F, tanδ shall be added 0.02 to the listed value with increase of every 1000 µ F.</p>   | Rated Voltage (V)   | 6.3                               | 10  | 16              | 25              | 35   | (20°C,120Hz) | tanδ             | 0.22    | 0.19 | 0.16  | 0.14 | 0.12   |      |                  |      |                    |  |                 |                                    |  |
| Rated Voltage (V)                              | 6.3   | 10  | 16                                | 25  | 35              | (20°C,120Hz)    |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| tanδ   | 0.22  | 0.19  | 0.16                              | 0.14  | 0.12            |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Endurance                                      | <p>After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value.</td> <td rowspan="3"> <table border="1"> <tr> <td>Case size</td> <td>Life Time (hrs)</td> </tr> <tr> <td>L=7</td> <td>1000</td> </tr> <tr> <td rowspan="3">L≥11</td> <td>φD≤ 6.3</td> <td>2000</td> </tr> <tr> <td>φD= 8</td> <td>3000</td> </tr> <tr> <td>φD= 10</td> <td>4000</td> </tr> <tr> <td>φD≥12.5</td> <td>5000</td> </tr> </table> </td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </table> | Capacitance Change  | Within ±25% of the initial value. | <table border="1"> <tr> <td>Case size</td> <td>Life Time (hrs)</td> </tr> <tr> <td>L=7</td> <td>1000</td> </tr> <tr> <td rowspan="3">L≥11</td> <td>φD≤ 6.3</td> <td>2000</td> </tr> <tr> <td>φD= 8</td> <td>3000</td> </tr> <tr> <td>φD= 10</td> <td>4000</td> </tr> <tr> <td>φD≥12.5</td> <td>5000</td> </tr> </table> | Case size       | Life Time (hrs) | L=7  | 1000         | L≥11             | φD≤ 6.3 | 2000 | φD= 8 | 3000 | φD= 10 | 4000 | φD≥12.5          | 5000 | Dissipation Factor | Not more than 200% of the specified value. | Leakage Current | Not more than the specified value. |  |
| Capacitance Change                             | Within ±25% of the initial value.   | <table border="1"> <tr> <td>Case size</td> <td>Life Time (hrs)</td> </tr> <tr> <td>L=7</td> <td>1000</td> </tr> <tr> <td rowspan="3">L≥11</td> <td>φD≤ 6.3</td> <td>2000</td> </tr> <tr> <td>φD= 8</td> <td>3000</td> </tr> <tr> <td>φD= 10</td> <td>4000</td> </tr> <tr> <td>φD≥12.5</td> <td>5000</td> </tr> </table> | Case size                         |   | Life Time (hrs) | L=7             | 1000 | L≥11         |                  | φD≤ 6.3 | 2000 | φD= 8 | 3000 | φD= 10 | 4000 | φD≥12.5          | 5000 |                    |  |                 |                                    |  |
| Case size                                      | Life Time (hrs)   |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| L=7  | 1000  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| L≥11   | φD≤ 6.3   | 2000  |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
|  | φD= 8   | 3000  |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
|  | φD= 10  | 4000  |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| φD≥12.5  | 5000  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Dissipation Factor                             | Not more than 200% of the specified value.  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Leakage Current                                | Not more than the specified value.  |   |                                   |   |                 |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Low Temperature Stability Impedance Ratio(MAX) | <table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td></td> </tr> </table>  | Rated Voltage (V)   | 6.3                               | 10  | 16              | 25              | 35   | (120Hz)      | Z(-25°C)/Z(20°C) | 2       | 2    | 2     | 2    | 2      |      | Z(-40°C)/Z(20°C) | 12   | 12                 | 10   | 8               | 6                                  |  |
| Rated Voltage (V)                              | 6.3   | 10  | 16                                | 25  | 35              | (120Hz)         |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Z(-25°C)/Z(20°C)                               | 2   | 2   | 2                                 | 2   | 2               |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |
| Z(-40°C)/Z(20°C)                               | 12  | 12  | 10                                | 8   | 6               |                 |      |              |                  |         |      |       |      |        |      |                  |      |                    |  |                 |                                    |  |

**◆ MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

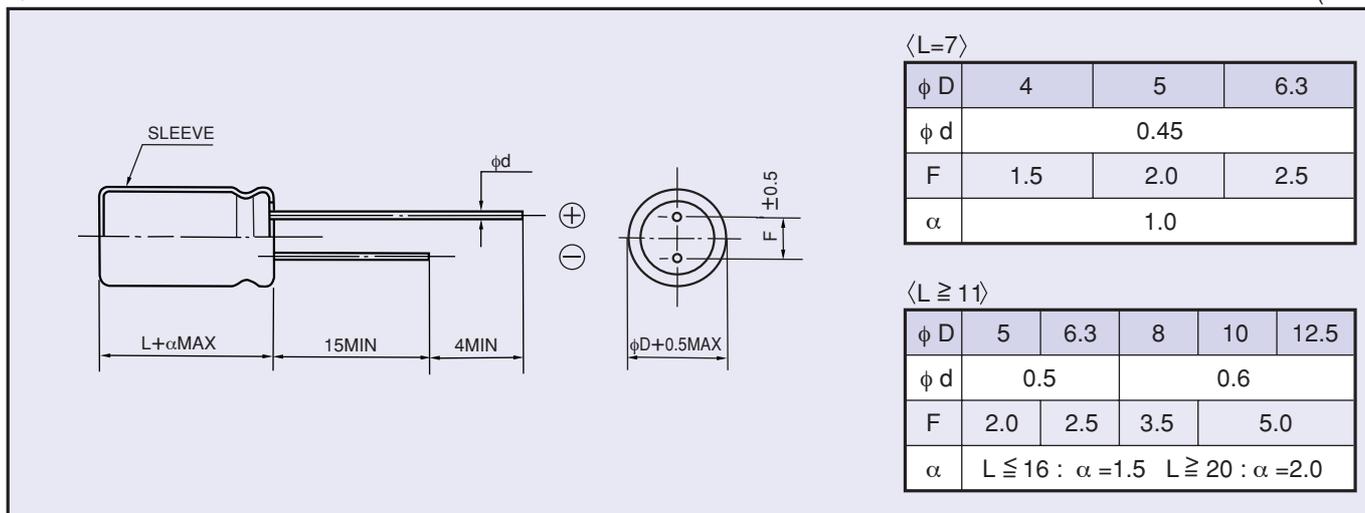
| Frequency (Hz) |                | 120  | 1k   | 10k  | 100k ≤ |
|----------------|----------------|------|------|------|--------|
| Coefficient    | 4.7 ~ 10 µ F   | 0.24 | 0.53 | 0.80 | 1.00   |
|                | 22 ~ 33 µ F    | 0.42 | 0.70 | 0.90 | 1.00   |
|                | 39 ~ 270 µ F   | 0.50 | 0.73 | 0.92 | 1.00   |
|                | 330 ~ 680 µ F  | 0.55 | 0.77 | 0.94 | 1.00   |
|                | 820 ~ 1800 µ F | 0.60 | 0.80 | 0.96 | 1.00   |
|                | 2200 ~ 3900µF  | 0.70 | 0.85 | 0.98 | 1.00   |

**◆ PART NUMBER**

|               |        |                   |                       |        |              |           |
|---------------|--------|-------------------|-----------------------|--------|--------------|-----------|
| □□□           | ZLG    | □□□□□             | □                     | □□□    | □□           | DxL       |
| Rated Voltage | Series | Rated Capacitance | Capacitance Tolerance | Option | Lead Forming | Case Size |

**◆ DIMENSIONS**

(mm)


**◆ STANDARD SIZE**

| Rated voltage 6.3V(0J)           |                                |   |                           |               |
|----------------------------------|--------------------------------|---|---------------------------|---------------|
| Rated capacitance<br>( $\mu F$ ) | Size<br>$\phi D \times L$ (mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                  |                                |   | 20°C, 100kHz              | -10°C, 100kHz |
| 33                               | 4 × 7                          | 230   | 0.48                      | 1.6           |
| 47                               | 5 × 7                          | 350   | 0.26                      | 0.86          |
| 100                              | 6.3 × 7                        | 480   | 0.15                      | 0.5           |
| 150                              | 5 × 11                         | 405   | 0.15                      | 0.5           |
| 330                              | 6.3 × 11                       | 760   | 0.065                     | 0.19          |
| 560                              | 8 × 11.5                       | 1000  | 0.036                     | 0.11          |
| 820                              | 8 × 16                         | 1250  | 0.028                     | 0.083         |
| 1000                             | 10 × 12.5                      | 1430  | 0.027                     | 0.070         |
| 1200                             | 8 × 20                         | 1600  | 0.020                     | 0.056         |
| 1200                             | 10 × 16                        | 1820  | 0.020                     | 0.056         |
| 1500                             | 10 × 20                        | 2180  | 0.014                     | 0.033         |
| 1500                             | 12.5 × 16                      | 2200  | 0.018                     | 0.033         |
| 2200                             | 10 × 23                        | 2360  | 0.013                     | 0.030         |
| 3300                             | 12.5 × 20                      | 2480  | 0.013                     | 0.030         |
| 3900                             | 12.5 × 25                      | 2900  | 0.012                     | 0.024         |

| Rated voltage 10V(1A)            |                                |   |                           |               |
|----------------------------------|--------------------------------|---|---------------------------|---------------|
| Rated capacitance<br>( $\mu F$ ) | Size<br>$\phi D \times L$ (mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                  |                                |   | 20°C, 100kHz              | -10°C, 100kHz |
| 22                               | 4 × 7                          | 230   | 0.49                      | 1.6           |
| 33                               | 5 × 7                          | 350   | 0.26                      | 0.86          |
| 47                               | 5 × 7                          | 350   | 0.26                      | 0.86          |
| 100                              | 6.3 × 7                        | 480   | 0.15                      | 0.5           |
| 100                              | 5 × 11                         | 405   | 0.15                      | 0.5           |
| 220                              | 6.3 × 11                       | 760   | 0.065                     | 0.19          |
| 470                              | 8 × 11.5                       | 1000  | 0.036                     | 0.11          |
| 680                              | 8 × 16                         | 1250  | 0.028                     | 0.083         |
| 680                              | 10 × 12.5                      | 1430  | 0.027                     | 0.070         |
| 1000                             | 8 × 20                         | 1600  | 0.020                     | 0.056         |
| 1000                             | 10 × 16                        | 1820  | 0.020                     | 0.056         |
| 1200                             | 10 × 20                        | 2180  | 0.014                     | 0.033         |
| 1200                             | 12.5 × 16                      | 2200  | 0.018                     | 0.033         |
| 1500                             | 10 × 23                        | 2360  | 0.013                     | 0.030         |
| 2200                             | 12.5 × 20                      | 2480  | 0.013                     | 0.030         |
| 3300                             | 12.5 × 25                      | 2900  | 0.012                     | 0.024         |

| Rated voltage 16V(1C)           |                                 |   |                           |               |
|---------------------------------|---------------------------------|---|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                                 |   | 20°C, 100kHz              | -10°C, 100kHz |
| 22                              | 5 $\times$ 7                    | 350   | 0.27                      | 0.89          |
| 33                              | 5 $\times$ 7                    | 350   | 0.26                      | 0.86          |
| 47                              | 6.3 $\times$ 7                  | 480   | 0.15                      | 0.5           |
| 56                              | 5 $\times$ 11                   | 405   | 0.15                      | 0.5           |
| 120                             | 6.3 $\times$ 11                 | 760   | 0.065                     | 0.19          |
| 330                             | 8 $\times$ 11.5                 | 1000  | 0.036                     | 0.11          |
| 470                             | 8 $\times$ 16                   | 1250  | 0.028                     | 0.083         |
| 470                             | 10 $\times$ 12.5                | 1430  | 0.027                     | 0.070         |
| 680                             | 8 $\times$ 20                   | 1600  | 0.020                     | 0.056         |
| 680                             | 10 $\times$ 16                  | 1820  | 0.020                     | 0.056         |
| 1000                            | 10 $\times$ 20                  | 2180  | 0.014                     | 0.033         |
| 1000                            | 12.5 $\times$ 16                | 2200  | 0.018                     | 0.033         |
| 1200                            | 10 $\times$ 23                  | 2360  | 0.013                     | 0.030         |
| 1500                            | 12.5 $\times$ 20                | 2480  | 0.013                     | 0.030         |
| 2200                            | 12.5 $\times$ 25                | 2900  | 0.012                     | 0.024         |

| Rated voltage 25V(1E)           |                                 |   |                           |               |
|---------------------------------|---------------------------------|---|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                                 |   | 20°C, 100kHz              | -10°C, 100kHz |
| 10                              | 4 $\times$ 7                    | 230   | 0.52                      | 1.7           |
| 22                              | 5 $\times$ 7                    | 350   | 0.27                      | 0.89          |
| 33                              | 6.3 $\times$ 7                  | 480   | 0.16                      | 0.53          |
| 47                              | 6.3 $\times$ 7                  | 480   | 0.15                      | 0.5           |
| 47                              | 5 $\times$ 11                   | 405   | 0.15                      | 0.5           |
| 100                             | 6.3 $\times$ 11                 | 760   | 0.065                     | 0.19          |
| 220                             | 8 $\times$ 11.5                 | 1000  | 0.036                     | 0.11          |
| 330                             | 8 $\times$ 16                   | 1250  | 0.028                     | 0.083         |
| 330                             | 10 $\times$ 12.5                | 1430  | 0.027                     | 0.070         |
| 470                             | 8 $\times$ 20                   | 1600  | 0.020                     | 0.056         |
| 470                             | 10 $\times$ 16                  | 1820  | 0.020                     | 0.056         |
| 680                             | 10 $\times$ 20                  | 2180  | 0.014                     | 0.033         |
| 680                             | 12.5 $\times$ 16                | 2200  | 0.018                     | 0.033         |
| 820                             | 10 $\times$ 23                  | 2360  | 0.013                     | 0.030         |
| 1000                            | 12.5 $\times$ 20                | 2480  | 0.013                     | 0.030         |
| 1500                            | 12.5 $\times$ 25                | 2900  | 0.012                     | 0.024         |

| Rated voltage 35V(1V)           |                                 |   |                           |               |
|---------------------------------|---------------------------------|---|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                                 |   | 20°C, 100kHz              | -10°C, 100kHz |
| 4.7                             | 4 $\times$ 7                    | 230   | 0.64                      | 2.1           |
| 10                              | 5 $\times$ 7                    | 350   | 0.33                      | 1.1           |
| 22                              | 6.3 $\times$ 7                  | 480   | 0.17                      | 0.56          |
| 33                              | 6.3 $\times$ 7                  | 480   | 0.16                      | 0.53          |
| 33                              | 5 $\times$ 11                   | 405   | 0.15                      | 0.5           |
| 56                              | 6.3 $\times$ 11                 | 760   | 0.065                     | 0.19          |
| 150                             | 8 $\times$ 11.5                 | 1000  | 0.036                     | 0.11          |
| 220                             | 8 $\times$ 16                   | 1250  | 0.028                     | 0.083         |
| 220                             | 10 $\times$ 12.5                | 1430  | 0.027                     | 0.070         |
| 270                             | 8 $\times$ 20                   | 1600  | 0.020                     | 0.056         |
| 330                             | 10 $\times$ 16                  | 1820  | 0.020                     | 0.056         |
| 470                             | 10 $\times$ 20                  | 2180  | 0.014                     | 0.033         |
| 470                             | 12.5 $\times$ 16                | 2200  | 0.018                     | 0.033         |
| 560                             | 10 $\times$ 23                  | 2360  | 0.013                     | 0.030         |
| 680                             | 12.5 $\times$ 20                | 2480  | 0.013                     | 0.030         |
| 1000                            | 12.5 $\times$ 25                | 2900  | 0.012                     | 0.024         |