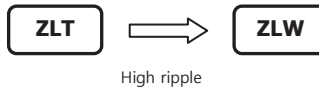


ZLW series

- Low impedance
- High-Ripple current
- RoHS compliant
- Solvent proof

- 105°C 4000~5000Hrs assured.
- Low impedance, Long life
- For SMPS, IP-Board, Adaptor
- RoHS compliant
- Halogen-free capacitors are also available.

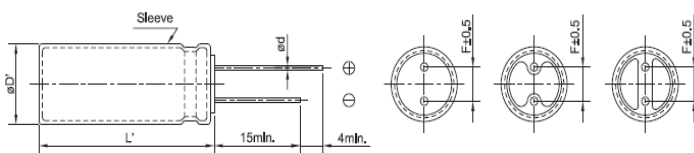


Specifications

| Item  | Characteristics  |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
|---|--|--------------------|------|------|------|----|----|------------------|------|------|------|------|------|------------------|---|---|---|---|---|
| Rated Voltage Range                               | 6.3 ~ 50Vdc  |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Operating Temperature Range                       | -55 ~ +105°C   |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Capacitance Tolerance                             | ±20% (M) (at 20°C, 120Hz)  |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Leakage Current                                   | I=0.01CV(μA) or 3μA, whichever is greater.<br>Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V: Rated voltage(Vdc)(at 20°C, 2 minutes)  |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Dissipation Factor(Tanδ)                          | <table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table> <p>If the capacitance exceeds 1,000uF, then Tanδ will be added 0.02 every 1000uF increase.(at 20°C, 120Hz)</p>  | Rated Voltage(Vdc) | 6.3  | 10   | 16   | 25 | 35 | Tanδ(Max.)       | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 |                  |   |   |   |   |   |
| Rated Voltage(Vdc)                                | 6.3  | 10                 | 16   | 25   | 35   |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Tanδ(Max.)  | 0.22   | 0.19               | 0.16 | 0.14 | 0.12 |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Temperature characteristics (Max,impedance ratio) | <table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table> <p>(at ,120Hz)</p>   | Rated Voltage(Vdc) | 6.3  | 10   | 16   | 25 | 35 | Z(-25°C)/Z(20°C) | 4    | 3    | 2    | 2    | 2    | Z(-40°C)/Z(20°C) | 8 | 6 | 4 | 3 | 3 |
| Rated Voltage(Vdc)                                | 6.3  | 10                 | 16   | 25   | 35   |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Z(-25°C)/Z(20°C)                                  | 4  | 3                  | 2    | 2    | 2    |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Z(-40°C)/Z(20°C)                                  | 8  | 6                  | 4    | 3    | 3    |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Load life   | <p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000hrs at 105°C.(10∅=4000hrs)</p> <p>Capacitance change ≤±25% of the initial value<br/>                     Tan δ ≤200% of the initial specified value<br/>                     Leakage current ≤The initial specified value</p>  |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |
| Shelf life  | <p>The following 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 for a minimum of 30 minutes at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤±25% of the initial value<br/>                     Tanδ ≤200% of the initial specified value<br/>                     Leakage current ≤200%The initial specified value</p> |                    |      |      |      |    |    |                  |      |      |      |      |      |                  |   |   |   |   |   |

Dimensions

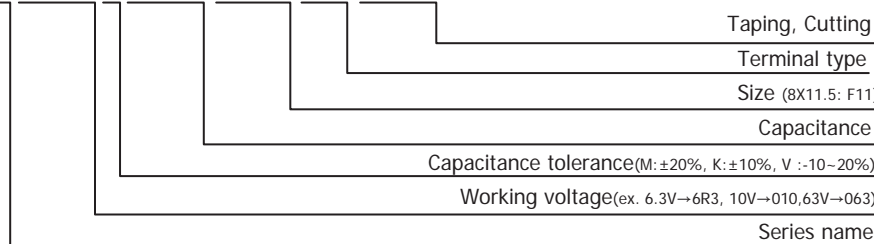
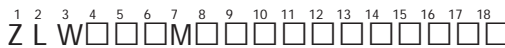
Unit(mm)



|     |            |      |
|-----|------------|------|
| ØD  | 10         | 12.5 |
| Ød  | 0.6        | 0.6  |
| F   | 5.0        | 5.0  |
| ØD' | ØD+0.5max. |      |
| L'  | L+1.5max.  |      |

- Printed black color letter on PET green sleeve

Code numbering system



|       |   |
|-------|---|
| Ø10   | G |
| Ø12.5 | X |

ZLW series

Standard Ratings

Note1) Imp. =  $\Omega_{max} / 20^{\circ}C, 100kHz$  2) Ripple current =  $mArms / 105^{\circ}C, 100kHz$

| WV (Vdc) | Cap (uF) | Size $\varnothing \times L (mm)$ | Imp. <sup>1)</sup> | Ripple <sup>2)</sup> | Code No            |
|----------|----------|----------------------------------|--------------------|----------------------|--------------------|
| 6.3      | 1,500    | 10 x 12.5                        | 0.065              | 960                  | ZLW6R3□152G13CS□□□ |
|          | 1,800    | 10 x 16                          | 0.051              | 1,240                | ZLW6R3□182G16CS□□□ |
|          | 2,700    | 10 x 20                          | 0.038              | 1,510                | ZLW6R3□272G20CS□□□ |
|          | 3,300    | 10 x 25                          | 0.035              | 1,700                | ZLW6R3□332G25CS□□□ |
|          | 4,700    | 12.5 x 20                        | 0.032              | 1,850                | ZLW6R3□472X20CS□□□ |
|          | 6,800    | 12.5 x 25                        | 0.025              | 2,300                | ZLW6R3□682X25CS□□□ |
| 10       | 1,000    | 10 x 12.5                        | 0.065              | 960                  | ZLW010□102G13CS□□□ |
|          | 1,500    | 10 x 16                          | 0.051              | 1,240                | ZLW010□152G16CS□□□ |
|          | 2,200    | 10 x 20                          | 0.038              | 1,510                | ZLW010□222G20CS□□□ |
|          | 2,700    | 10 x 25                          | 0.035              | 1,700                | ZLW010□272G25CS□□□ |
|          | 3,300    | 12.5 x 20                        | 0.032              | 1,850                | ZLW010□332X20CS□□□ |
|          | 4,700    | 12.5 x 25                        | 0.025              | 2,300                | ZLW010□472X25CS□□□ |
| 16       | 820      | 10 x 12.5                        | 0.065              | 960                  | ZLW016□821G13CS□□□ |
|          | 1,000    | 10 x 16                          | 0.051              | 1,240                | ZLW016□102G16CS□□□ |
|          | 1,500    | 10 x 20                          | 0.038              | 1,510                | ZLW016□152G20CS□□□ |
|          | 1,800    | 10 x 25                          | 0.035              | 1,700                | ZLW016□182G25CS□□□ |
|          | 2,200    | 12.5 x 20                        | 0.032              | 1,850                | ZLW016□222X20CS□□□ |
|          | 3,300    | 12.5 x 25                        | 0.025              | 2,300                | ZLW016□332X25CS□□□ |
| 25       | 470      | 10 x 12.5                        | 0.065              | 960                  | ZLW025□471G13CS□□□ |
|          | 680      | 10 x 16                          | 0.051              | 1,240                | ZLW025□681G16CS□□□ |
|          | 1,000    | 10 x 20                          | 0.038              | 1,510                | ZLW025□102G20CS□□□ |
|          | 1,200    | 10 x 25                          | 0.035              | 1,700                | ZLW025□122G25CS□□□ |
|          | 1,500    | 12.5 x 20                        | 0.032              | 1,850                | ZLW025□152X20CS□□□ |
|          | 2,200    | 12.5 x 25                        | 0.025              | 2,300                | ZLW025□222X25CS□□□ |
| 35       | 330      | 10 x 12.5                        | 0.065              | 960                  | ZLW035□331G13CS□□□ |
|          | 470      | 10 x 16                          | 0.051              | 1,240                | ZLW035□471G16CS□□□ |
|          | 680      | 10 x 20                          | 0.038              | 1,510                | ZLW035□681G20CS□□□ |
|          | 820      | 10 x 25                          | 0.035              | 1,700                | ZLW035□821G25CS□□□ |
|          | 1,000    | 12.5 x 20                        | 0.032              | 1,850                | ZLW035□102X20CS□□□ |
|          | 1,500    | 12.5 x 25                        | 0.025              | 2,300                | ZLW035□152X25CS□□□ |

Rated ripple current multipliers

| Capacitance (uF) | Frequency (Hz) |      |      |      |
|------------------|----------------|------|------|------|
|                  | 120            | 1K   | 10K  | 100K |
| ~ 560            | 0.50           | 0.85 | 0.94 | 1.00 |
| 680 ~ 1,800      | 0.60           | 0.87 | 0.95 | 1.00 |
| 2,200 ~ 3,300    | 0.75           | 0.90 | 0.95 | 1.00 |
| 4,700 ~ 6,800    | 0.85           | 0.95 | 0.98 | 1.00 |