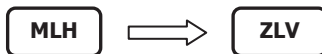




# ZLV series

- Low impedance
- High-Ripple current
- RoHS compliant

- 105°C 4,000 ~ 5,000Hrs assured.
- Low impedance, High Ripple current
- For LCD TV BLU, SMPS, IP-Board, Adaptor
- RoHS compliant
- Halogen-free capacitors are also available.



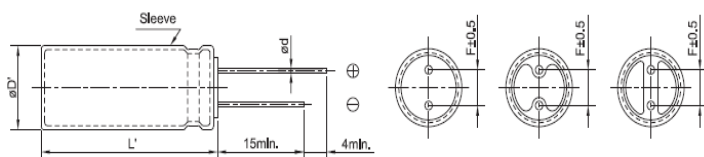
Low ESR / Long life

## Specifications

| Item  | Characteristics   |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
|---|---|--------------------|----------------------------|-------|--------------------------------------|-----------------|----------------------------------|----|-----------|------------------|----------|-------------|----------|------|----------|------|------|------------------|---|--|--|--|--|--|--|
| Rated Voltage Range                               | 10 ~ 100Vdc   |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Operating Temperature Range                       | -40 ~ +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>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.06</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) | 10                         | 16    | 25                                   | 35              | 50                               | 63 | 100       | Tanδ(Max.)       | 0.19     | 0.16        | 0.14     | 0.12 | 0.10     | 0.08 | 0.06 |                  |   |  |  |  |  |  |  |
| Rated Voltage(Vdc)                                | 10  | 16                 | 25                         | 35    | 50                                   | 63              | 100                              |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Tanδ(Max.)  | 0.19  | 0.16               | 0.14                       | 0.12  | 0.10                                 | 0.08            | 0.06                             |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Temperature characteristics (Max,impedance ratio) | <table border="1"> <tr> <td>Rated Voltage(Vdc)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td colspan="7">2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td colspan="7">3</td> </tr> </table> <p>(at ,120Hz)</p>  | Rated Voltage(Vdc) | 10                         | 16    | 25                                   | 35              | 50                               | 63 | 100       | Z(-25°C)/Z(20°C) | 2        |             |          |      |          |      |      | Z(-40°C)/Z(20°C) | 3 |  |  |  |  |  |  |
| Rated Voltage(Vdc)                                | 10  | 16                 | 25                         | 35    | 50                                   | 63              | 100                              |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Z(-25°C)/Z(20°C)                                  | 2   |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Z(-40°C)/Z(20°C)                                  | 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 specified life times at 105°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>≤±25% of the initial value</td> </tr> <tr> <td>Tan δ</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table> <table border="1"> <tr> <td>∅D</td> <td>Life time</td> </tr> <tr> <td>∅8</td> <td>4,000hrs</td> </tr> <tr> <td>∅10 x 12.5L</td> <td>4,000hrs</td> </tr> <tr> <td>∅10</td> <td>5,000hrs</td> </tr> </table> | Capacitance change | ≤±25% of the initial value | Tan δ | ≤200% of the initial specified value | Leakage current | ≤The initial specified value     | ∅D | Life time | ∅8               | 4,000hrs | ∅10 x 12.5L | 4,000hrs | ∅10  | 5,000hrs |      |      |                  |   |  |  |  |  |  |  |
| Capacitance change                                | ≤±25% of the initial value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Tan δ   | ≤200% of the initial specified value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Leakage current                                   | ≤The initial specified value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| ∅D  | Life time   |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| ∅8  | 4,000hrs  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| ∅10 x 12.5L                                       | 4,000hrs  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| ∅10   | 5,000hrs  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| 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> <table border="1"> <tr> <td>Capacitance change</td> <td>≤±25% of the initial value</td> </tr> <tr> <td>Tanδ</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤200%The initial specified value</td> </tr> </table>  | Capacitance change | ≤±25% of the initial value | Tanδ  | ≤200% of the initial specified value | Leakage current | ≤200%The initial specified value |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Capacitance change                                | ≤±25% of the initial value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Tanδ  | ≤200% of the initial specified value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |
| Leakage current                                   | ≤200%The initial specified value  |                    |                            |       |                                      |                 |                                  |    |           |                  |          |             |          |      |          |      |      |                  |   |  |  |  |  |  |  |

## Dimensions

Unit(mm)



| ∅D  | 5           | 6.3 | 8   | 10        | 12.5 | 16  | 18  |
|-----|-------------|-----|-----|-----------|------|-----|-----|
| ∅d  | 0.5         | 0.5 | 0.6 | 0.6       | 0.6  | 0.8 | 0.8 |
| F   | 2.0         | 2.5 | 3.5 | 5.0       | 5.0  | 7.5 | 7.5 |
| ∅D' | ∅D+0.5 max. |     |     |           |      |     |     |
| L'  | L+1.5 max   |     |     | L+2.0 max |      |     |     |

- Printed black color letter on PET sky blue sleeve

## Code numbering system



- Taping, Cutting
- Terminal type
- Size (8x11.5: F11)
- Capacitance
- Capacitance tolerance(M:±20%, K:±10%, V : -10~20%)
- Rated voltage(ex. 6.3V→6R3, 10V→010,63V→063)
- Series name

|       |   |
|-------|---|
| ∅5    | D |
| ∅6.3  | E |
| ∅8    | F |
| ∅10   | G |
| ∅12.5 | X |
| ∅16   | J |
| ∅18   | K |



ZLV series

Standard Ratings

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

| WV (Vdc) | Cap (uF)  | Size ØxL(mm) | Imp. <sup>1)</sup> | Ripple <sup>2)</sup> | Code No            |
|----------|-----------|--------------|--------------------|----------------------|--------------------|
| 6.3      | 120       | 5 x 11       | 0.72               | 167                  | ZLV6R3□121D11CS□□□ |
|          | 220       | 6.3 x 11     | 0.38               | 256                  | ZLV6R3□221E11CS□□□ |
|          | 330       | 6.3 x 15     | 0.27               | 333                  | ZLV6R3□331E15CS□□□ |
|          |           | 8 x 11.5     | 0.19               | 487                  | ZLV6R3□331F11CS□□□ |
|          | 470       | 10 x 12.5    | 0.12               | 625                  | ZLV6R3□471G13CS□□□ |
|          | 560       | 8 x 15       | 0.16               | 498                  | ZLV6R3□561F15CS□□□ |
|          | 680       | 10 x 16      | 0.084              | 826                  | ZLV6R3□681G16CS□□□ |
|          | 820       | 8 x 20       | 0.110              | 650                  | ZLV6R3□821F20CS□□□ |
|          | 1,200     | 10 x 20      | 0.061              | 1,060                | ZLV6R3□122G20CS□□□ |
|          | 1,500     | 10 x 25      | 0.052              | 1,280                | ZLV6R3□152G25CS□□□ |
|          | 2,200     | 10 x 30      | 0.044              | 1,450                | ZLV6R3□222G30CS□□□ |
|          | 2,700     | 12.5 x 25    | 0.033              | 1,690                | ZLV6R3□272X25CS□□□ |
|          | 3,300     | 12.5 x 30    | 0.032              | 1,790                | ZLV6R3□332X30CS□□□ |
|          | 3,900     | 12.3 x 30    | 0.030              | 1,950                | ZLV6R3□392X30CS□□□ |
|          | 4,700     | 12.5 x 35    | 0.027              | 2,210                | ZLV6R3□472X35CS□□□ |
|          | 5,600     | 12.5 x 42.5  | 0.024              | 2,390                | ZLV6R3□562X43CS□□□ |
|          | 5,600     | 16 x 25      | 0.028              | 2,080                | ZLV6R3□562J25CS□□□ |
|          | 6,800     | 16 x 31.5    | 0.026              | 2,350                | ZLV6R3□682J32CS□□□ |
|          | 6,800     | 18 x 25      | 0.029              | 2,140                | ZLV6R3□682K25CS□□□ |
|          | 8,200     | 16 x 35.5    | 0.023              | 2,550                | ZLV6R3□822J36CS□□□ |
| 10,000   | 18 x 31.5 | 0.025        | 2,420              | ZLV6R3□103K32CS□□□   |                    |
| 12,000   | 18 x 35.5 | 0.024        | 2,660              | ZLV6R3□123K36CS□□□   |                    |
| 15,000   | 18 x 40   | 0.019        | 3,020              | ZLV6R3□153K40CS□□□   |                    |
| 10       | 82        | 5 x 11       | 0.72               | 167                  | ZLV010□820D11CS□□□ |
|          | 180       | 6.3 x 11     | 0.38               | 256                  | ZLV010□181E11CS□□□ |
|          | 270       | 6.3 x 15     | 0.27               | 333                  | ZLV010□271E15CS□□□ |
|          |           | 8 x 11.5     | 0.19               | 487                  | ZLV010□271F11CS□□□ |
|          | 470       | 8 x 11.5     | 0.25               | 330                  | ZLV010□471F11CS□□□ |
|          |           | 8 x 15       | 0.16               | 495                  | ZLV010□471F15CS□□□ |
|          | 680       | 8 x 20       | 0.11               | 640                  | ZLV010□681F20CS□□□ |
|          |           | 10 x 16      | 0.084              | 825                  | ZLV010□681G16CS□□□ |
|          | 1,000     | 10 x 20      | 0.062              | 1,040                | ZLV010□102G20CS□□□ |
|          | 1,200     | 10 x 25      | 0.052              | 1,260                | ZLV010□122G25CS□□□ |
|          | 1,500     | 10 x 30      | 0.044              | 1,440                | ZLV010□152G30CS□□□ |
|          | 1,800     | 12.5 x 20    | 0.046              | 1,340                | ZLV010□182X20CS□□□ |
|          | 2,200     | 12.5 x 25    | 0.034              | 1,690                | ZLV010□222X25CS□□□ |
|          | 2,700     | 12.5 x 30    | 0.030              | 1,950                | ZLV010□272X30CS□□□ |
|          | 3,300     | 12.5 x 35    | 0.027              | 2,200                | ZLV010□332X35CS□□□ |
|          |           | 16 x 20      | 0.039              | 1,630                | ZLV010□332J20CS□□□ |
|          | 3,900     | 12.5 x 42.5  | 0.024              | 2,390                | ZLV010□392X43CS□□□ |
|          |           | 16 x 25      | 0.029              | 2,070                | ZLV010□392J25CS□□□ |
|          | 4,700     | 16 x 31.5    | 0.025              | 2,280                | ZLV010□472J32CS□□□ |
|          | 5,600     | 16 x 31.5    | 0.026              | 2,350                | ZLV010□562J32CS□□□ |
| 18 x 25  |           | 0.029        | 2,130              | ZLV010□562K25CS□□□   |                    |
| 6,800    | 16 x 35.5 | 0.023        | 2,550              | ZLV010□682J36CS□□□   |                    |
|          | 18 x 31.5 | 0.026        | 2,410              | ZLV010□682K32CS□□□   |                    |
| 8,200    | 18 x 35.5 | 0.023        | 2,660              | ZLV010□822K36CS□□□   |                    |
| 10,000   | 18 x 40   | 0.019        | 3,010              | ZLV010□103K40CS□□□   |                    |
| 16       | 56        | 5 x 11       | 0.72               | 165                  | ZLV016□560D11CS□□□ |
|          | 120       | 6.3 x 11     | 0.38               | 255                  | ZLV016□121E11CS□□□ |
|          | 180       | 6.3 x 15     | 0.27               | 330                  | ZLV016□181E15CS□□□ |
|          |           | 8 x 11.5     | 0.19               | 485                  | ZLV016□181F11CS□□□ |
|          | 270       | 10 x 12.5    | 0.12               | 625                  | ZLV016□271G13CS□□□ |
|          | 330       | 8 x 15       | 0.16               | 495                  | ZLV016□331F15CS□□□ |
|          |           | 8 x 20       | 0.11               | 640                  | ZLV016□331F20CS□□□ |
|          | 470       | 10 x 16      | 0.084              | 825                  | ZLV016□471G16CS□□□ |
|          |           | 10 x 20      | 0.062              | 1,040                | ZLV016□471G20CS□□□ |
|          | 1,000     | 10 x 30      | 0.047              | 1,360                | ZLV016□102G30CS□□□ |

| WV (Vdc) | Cap (uF)    | Size ØxL(mm) | Imp. <sup>1)</sup> | Ripple <sup>2)</sup> | Code No            |
|----------|-------------|--------------|--------------------|----------------------|--------------------|
| 16       | 1,200       | 10 x 30      | 0.044              | 1,440                | ZLV016□122G30CS□□□ |
|          |             | 12.5 x 20    | 0.046              | 1,340                | ZLV016□122X20CS□□□ |
|          | 1,500       | 12.5 x 25    | 0.034              | 1,690                | ZLV016□152X25CS□□□ |
|          |             | 12.5 x 30    | 0.030              | 1,950                | ZLV016□152X30CS□□□ |
|          | 2,200       | 16 x 20      | 0.039              | 1,630                | ZLV016□222J20CS□□□ |
|          |             | 12.5 x 35    | 0.027              | 2,200                | ZLV016□272X35CS□□□ |
|          | 2,700       | 16 x 25      | 0.029              | 2,070                | ZLV016□272J25CS□□□ |
|          |             | 12.5 x 42.5  | 0.024              | 2,390                | ZLV016□332X43CS□□□ |
|          | 3,300       | 18 x 20      | 0.038              | 1,750                | ZLV016□332K20CS□□□ |
|          |             | 16 x 31.5    | 0.026              | 2,350                | ZLV016□392J32CS□□□ |
|          | 3,900       | 18 x 25      | 0.029              | 2,130                | ZLV016□392K25CS□□□ |
|          |             | 16 x 35.5    | 0.023              | 2,550                | ZLV016□472J36CS□□□ |
|          | 5,600       | 18 x 31.5    | 0.026              | 2,410                | ZLV016□562K32CS□□□ |
|          | 6,800       | 18 x 35.5    | 0.023              | 2,660                | ZLV016□682K36CS□□□ |
|          | 8,200       | 18 x 40      | 0.019              | 3,010                | ZLV016□822K40CS□□□ |
|          | 25          | 39           | 5 x 11             | 0.72                 | 165                |
| 47       |             | 5 x 11       | 0.72               | 194                  | ZLV025□470D11CS□□□ |
| 82       |             | 6.3 x 11     | 0.38               | 255                  | ZLV025□820E11CS□□□ |
| 100      |             | 6.3 x 11     | 0.35               | 280                  | ZLV025□101E11CS□□□ |
| 120      |             | 6.3 x 15     | 0.27               | 330                  | ZLV025□121E15CS□□□ |
|          |             | 8 x 11.5     | 0.19               | 485                  | ZLV025□121F11CS□□□ |
| 180      |             | 10 x 12.5    | 0.12               | 625                  | ZLV025□181G13CS□□□ |
| 220      |             | 8 x 15       | 0.16               | 495                  | ZLV025□221F15CS□□□ |
| 330      |             | 8 x 20       | 0.11               | 640                  | ZLV025□331F20CS□□□ |
|          |             | 10 x 16      | 0.084              | 825                  | ZLV025□331G16CS□□□ |
| 470      |             | 10 x 20      | 0.062              | 1,150                | ZLV025□471G20CS□□□ |
| 560      |             | 10 x 25      | 0.052              | 1,260                | ZLV025□561G25CS□□□ |
| 680      |             | 10 x 30      | 0.048              | 1,330                | ZLV025□681G30CS□□□ |
| 820      |             | 12.5 x 20    | 0.046              | 1,440                | ZLV025□821X20CS□□□ |
|          |             | 12.5 x 25    | 0.034              | 1,690                | ZLV025□102X25CS□□□ |
| 1,000    |             | 12.5 x 30    | 0.030              | 1,950                | ZLV025□152X30CS□□□ |
|          | 16 x 20     | 0.039        | 1,630              | ZLV025□152J20CS□□□   |                    |
| 1,800    | 12.5 x 35   | 0.027        | 2,200              | ZLV025□182X35CS□□□   |                    |
|          | 16 x 25     | 0.029        | 2,070              | ZLV025□182J25CS□□□   |                    |
| 2,200    | 12.5 x 42.5 | 0.024        | 2,390              | ZLV025□222X43CS□□□   |                    |
|          | 18 x 20     | 0.038        | 1,750              | ZLV025□222K20CS□□□   |                    |
| 2,700    | 16 x 31.5   | 0.026        | 2,350              | ZLV025□272J32CS□□□   |                    |
|          | 18 x 25     | 0.029        | 2,130              | ZLV025□272K25CS□□□   |                    |
| 3,300    | 16 x 35.5   | 0.023        | 2,550              | ZLV025□332J36CS□□□   |                    |
|          | 18 x 31.5   | 0.026        | 2,410              | ZLV025□332K32CS□□□   |                    |
| 3,900    | 18 x 35.5   | 0.023        | 2,660              | ZLV025□392K36CS□□□   |                    |
| 4,700    | 18 x 40     | 0.019        | 3,010              | ZLV025□472K40CS□□□   |                    |
| 35       | 27          | 5 x 11       | 0.72               | 165                  | ZLV035□270D11CS□□□ |
|          | 47          | 6.3 x 11     | 0.50               | 233                  | ZLV035□470E11CS□□□ |
|          | 56          | 6.3 x 11     | 0.38               | 255                  | ZLV035□560E11CS□□□ |
|          | 68          | 6.3 x 11     | 0.38               | 255                  | ZLV035□680E11CS□□□ |
|          | 82          | 6.3 x 15     | 0.27               | 330                  | ZLV035□820E15CS□□□ |
|          |             | 8 x 11.5     | 0.19               | 485                  | ZLV035□820F11CS□□□ |
|          | 100         | 8 x 15       | 0.16               | 566                  | ZLV035□101F15CS□□□ |
|          | 120         | 10 x 12.5    | 0.12               | 625                  | ZLV035□121G13CS□□□ |
|          | 180         | 8 x 15       | 0.16               | 495                  | ZLV035□181F15CS□□□ |
|          |             | 8 x 20       | 0.11               | 640                  | ZLV035□221F20CS□□□ |
|          | 220         | 10 x 16      | 0.084              | 825                  | ZLV035□221G16CS□□□ |
|          |             | 10 x 20      | 0.062              | 1,040                | ZLV035□331G20CS□□□ |
|          | 330         | 10 x 25      | 0.052              | 1,260                | ZLV035□391G25CS□□□ |
|          | 390         | 10 x 30      | 0.048              | 1,320                | ZLV035□471G30CS□□□ |
|          | 470         | 10 x 30      | 0.044              | 1,440                | ZLV035□561G30CS□□□ |
|          |             | 12.5 x 20    | 0.046              | 1,340                | ZLV035□561X20CS□□□ |
| 560      | 12.5 x 25   | 0.034        | 1,690              | ZLV035□681X25CS□□□   |                    |



ZLV series

Standard Ratings

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

| WV (Vdc) | Cap (uF)  | Size ØxL(mm) | Imp. <sup>1)</sup> | Ripple <sup>2)</sup> | Code No            |
|----------|-----------|--------------|--------------------|----------------------|--------------------|
| 35       | 1,000     | 12.5 x 25    | 0.040              | 1,690                | ZLV035□102X25CS□□□ |
|          |           | 12.5 x 30    | 0.030              | 1,950                | ZLV035□102X30CS□□□ |
|          | 1,200     | 12.5 x 35    | 0.027              | 2,200                | ZLV035□122X35CS□□□ |
|          |           | 16 x 25      | 0.029              | 2,070                | ZLV035□122J25CS□□□ |
|          | 1,500     | 12.5 x 42.5  | 0.024              | 2,390                | ZLV035□152X43CS□□□ |
|          |           | 18 x 20      | 0.038              | 1,750                | ZLV035□152K20CS□□□ |
|          | 1,800     | 16 x 31.5    | 0.026              | 2,350                | ZLV035□182J32CS□□□ |
|          |           | 18 x 25      | 0.029              | 2,130                | ZLV035□182K25CS□□□ |
|          | 2,200     | 16 x 35.5    | 0.023              | 2,550                | ZLV035□222J36CS□□□ |
|          |           | 18 x 31.5    | 0.026              | 2,410                | ZLV035□222K32CS□□□ |
|          | 2,700     | 18 x 35.5    | 0.023              | 2,660                | ZLV035□272K36CS□□□ |
|          | 3,300     | 18 x 40      | 0.019              | 3,010                | ZLV035□332K40CS□□□ |
| 50       | 4.7       | 5 x 11       | 3.0                | 100                  | ZLV050□4R7D11CS□□□ |
|          | 10        | 5 x 11       | 1.4                | 124                  | ZLV050□100D11CS□□□ |
|          | 18        | 5 x 11       | 1.1                | 130                  | ZLV050□180D11CS□□□ |
|          | 22        | 6.3 x 11     | 0.91               | 180                  | ZLV050□220E11CS□□□ |
|          | 39        | 6.3 x 11     | 0.56               | 220                  | ZLV050□390E11CS□□□ |
|          | 47        | 6.3 x 11     | 0.56               | 300                  | ZLV050□470E11CS□□□ |
|          | 56        | 6.3 x 15     | 0.41               | 310                  | ZLV050□560E15CS□□□ |
|          |           | 8 x 11.5     | 0.33               | 368                  | ZLV050□560F11CS□□□ |
|          | 82        | 8 x 15       | 0.25               | 470                  | ZLV050□820F15CS□□□ |
|          |           | 10 x 12.5    | 0.16               | 480                  | ZLV050□820G13CS□□□ |
|          | 120       | 8 x 20       | 0.18               | 610                  | ZLV050□121F20CS□□□ |
|          |           | 10 x 16      | 0.12               | 755                  | ZLV050□121G16CS□□□ |
|          | 180       | 10 x 20      | 0.088              | 945                  | ZLV050□181G20CS□□□ |
|          | 220       | 10 x 25      | 0.068              | 1,150                | ZLV050□221G25CS□□□ |
|          | 330       | 10 x 30      | 0.059              | 1,260                | ZLV050□331G30CS□□□ |
|          |           | 12.5 x 20    | 0.059              | 1,190                | ZLV050□331X20CS□□□ |
|          | 470       | 12.5 x 25    | 0.045              | 1,490                | ZLV050□471X25CS□□□ |
|          | 560       | 12.5 x 30    | 0.039              | 1,720                | ZLV050□561X30CS□□□ |
|          | 680       | 12.5 x 35    | 0.038              | 1,890                | ZLV050□681X35CS□□□ |
|          |           | 16 x 20      | 0.044              | 1,420                | ZLV050□681J20CS□□□ |
|          | 820       | 12.5 x 42.5  | 0.029              | 2,030                | ZLV050□821X43CS□□□ |
|          |           | 16 x 25      | 0.034              | 1,880                | ZLV050□821J25CS□□□ |
|          | 1,000     | 18 x 20      | 0.041              | 1,520                | ZLV050□821K20CS□□□ |
|          |           | 16 x 31.5    | 0.030              | 2,150                | ZLV050□102J32CS□□□ |
| 1,200    | 18 x 25   | 0.032        | 1,930              | ZLV050□102K25CS□□□   |                    |
|          | 16 x 35.5 | 0.027        | 2,320              | ZLV050□122J36CS□□□   |                    |
| 1,500    | 18 x 31.5 | 0.028        | 2,200              | ZLV050□152K32CS□□□   |                    |
| 1,800    | 18 x 35.5 | 0.024        | 2,400              | ZLV050□182K36CS□□□   |                    |
| 2,200    | 18 x 40   | 0.022        | 2,610              | ZLV050□222K40CS□□□   |                    |

| WV (Vdc) | Cap (uF)  | Size ØxL(mm) | Imp. <sup>1)</sup> | Ripple <sup>2)</sup> | Code No            |
|----------|-----------|--------------|--------------------|----------------------|--------------------|
| 63       | 0.47      | 5 x 11       | 65.2               | 38                   | ZLV063□R47D11CS□□□ |
|          | 0.68      | 5 x 11       | 47.0               | 45                   | ZLV063□R68D11CS□□□ |
|          | 1.0       | 5 x 11       | 31.8               | 53                   | ZLV063□1R0D11CS□□□ |
|          | 1.5       | 5 x 11       | 22.6               | 65                   | ZLV063□1R5D11CS□□□ |
|          | 2.2       | 5 x 11       | 15.1               | 78                   | ZLV063□2R2D11CS□□□ |
|          | 3.3       | 5 x 11       | 11.1               | 98                   | ZLV063□3R3D11CS□□□ |
|          | 4.7       | 5 x 11       | 10.8               | 115                  | ZLV063□4R7D11CS□□□ |
|          | 6.8       | 5 x 11       | 4.3                | 120                  | ZLV063□6R8D11CS□□□ |
|          | 10        | 5 x 11       | 2.9                | 134                  | ZLV063□100D11CS□□□ |
|          | 15        | 6.3 x 11     | 2.7                | 188                  | ZLV063□150E11CS□□□ |
|          | 22        | 6.3 x 11     | 1.36               | 228                  | ZLV063□220E11CS□□□ |
|          | 33        | 8 x 11.5     | 0.66               | 330                  | ZLV063□330F11CS□□□ |
|          | 47        | 10 x 12.5    | 0.58               | 327                  | ZLV063□470G13CS□□□ |
|          | 68        | 10 x 16      | 0.36               | 431                  | ZLV063□680G16CS□□□ |
|          | 82        | 10 x 20      | 0.32               | 506                  | ZLV063□820G20CS□□□ |
|          | 100       | 10 x 20      | 0.29               | 570                  | ZLV063□101G20CS□□□ |
|          | 150       | 10 x 25      | 0.20               | 765                  | ZLV063□151G25CS□□□ |
|          | 100       | 0.47         | 5 x 11             | 31.2                 | 38                 |
| 0.68     |           | 5 x 11       | 22.1               | 45                   | ZLV100□R68D11CS□□□ |
| 1.0      |           | 5 x 11       | 14.7               | 53                   | ZLV100□1R0D11CS□□□ |
| 1.5      |           | 5 x 11       | 9.8                | 65                   | ZLV100□1R5D11CS□□□ |
| 2.2      |           | 5 x 11       | 5.4                | 78                   | ZLV100□2R2D11CS□□□ |
| 3.3      |           | 5 x 11       | 4.6                | 98                   | ZLV100□3R3D11CS□□□ |
| 4.7      |           | 5 x 11       | 3.9                | 115                  | ZLV100□4R7D11CS□□□ |
| 6.8      |           | 6.3 x 11     | 3.2                | 128                  | ZLV100□6R8E11CS□□□ |
| 10       |           | 6.3 x 11     | 1.7                | 154                  | ZLV100□100E11CS□□□ |
| 15       |           | 8 x 11.5     | 1.2                | 222                  | ZLV100□150F11CS□□□ |
| 22       |           | 8 x 11.5     | 0.82               | 270                  | ZLV100□220F11CS□□□ |
| 33       |           | 10 x 12.5    | 0.41               | 384                  | ZLV100□330G13CS□□□ |
| 47       |           | 10 x 16      | 0.37               | 400                  | ZLV100□470G16CS□□□ |
| 68       |           | 10 x 20      | 0.27               | 470                  | ZLV100□680G20CS□□□ |
| 82       |           | 10 x 25      | 0.26               | 572                  | ZLV100□820G25CS□□□ |
| 100      |           | 12.5 x 20    | 0.27               | 670                  | ZLV100□101X20CS□□□ |
| 150      |           | 12.5 x 25    | 0.21               | 894                  | ZLV100□151X25CS□□□ |
| 220      |           | 16 x 25      | 0.17               | 1,200                | ZLV100□221J25CS□□□ |
| 330      | 16 x 31.5 | 0.11         | 1,470              | ZLV100□331J32CS□□□   |                    |
| 470      | 16 x 35.5 | 0.091        | 1,680              | ZLV100□471J36CS□□□   |                    |
| 680      | 18 x 40   | 0.071        | 2,120              | ZLV100□681K40CS□□□   |                    |
| 1,000    | 18 x 40   | 0.051        | 2,900              | ZLV100□102K40CS□□□   |                    |

Rated ripple current multipliers

| Rated voltage (Vdc) | ØD (mm)   | Frequency (Hz) |      |      |      |      |
|---------------------|-----------|----------------|------|------|------|------|
|                     |           | 120            | 1K   | 10K  | 50K  | 100K |
| 6.3-10              | Ø5-Ø8     | 0.65           | 0.83 | 0.95 | 0.97 | 1.00 |
|                     | Ø10-Ø12.5 | 0.70           | 0.85 | 0.96 | 0.98 | 1.00 |
|                     | Ø16-Ø18   | 0.85           | 0.92 | 0.97 | 0.99 | 1.00 |
| 16-25               | Ø5-Ø8     | 0.55           | 0.76 | 0.91 | 0.95 | 1.00 |
|                     | Ø10-Ø12.5 | 0.65           | 0.83 | 0.93 | 0.96 | 1.00 |
| 35-50               | Ø16-Ø18   | 0.70           | 0.87 | 0.96 | 0.98 | 1.00 |
|                     | Ø5-Ø8     | 0.40           | 0.66 | 0.85 | 0.90 | 1.00 |
|                     | Ø10-Ø12.5 | 0.50           | 0.73 | 0.89 | 0.94 | 1.00 |
| 63-100              | Ø16-Ø18   | 0.60           | 0.81 | 0.94 | 0.97 | 1.00 |
|                     | Ø5-Ø8     | 0.20           | 0.55 | 0.80 | 0.88 | 1.00 |
|                     | Ø10-Ø12.5 | 0.35           | 0.65 | 0.85 | 0.92 | 1.00 |
|                     | Ø16-Ø18   | 0.50           | 0.75 | 0.90 | 0.95 | 1.00 |