

## LZA Series

- Adoption of innovative electrolyte and new technologies
- Very low impedance at high frequency
- Endurance with ripple current: 4,000 to 7,000 hours at 105°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

LZA

Lower Z  
Downsized  
LXZ

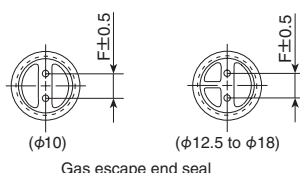
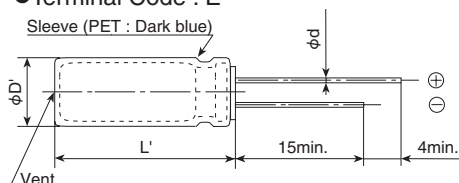


### SPECIFICATIONS

| Items                                                        | Characteristics                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|-------------------------------------------|---------------------------|--------------------------------------|
| Category                                                     | -55 to +105℃                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Temperature Range                                            |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Rated Voltage Range                                          | 6.3 to 35V <sub>dc</sub>                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Capacitance Tolerance                                        | ±20% (M) (at 20℃, 120Hz)                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Leakage Current                                              | I=0.01CV or 3μA, whichever is greater.<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃ after 2 minutes)                                                                                                   |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Dissipation Factor<br>(tan δ )                               | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                               | 6.3V                                                                                                                                                                                                                                                                                  | 10V  | 16V                 | 25V                                       | 35V                       |                                      |
|                                                              | tan δ (Max.)                                                                                                                                                                                                                                                   | 0.22                                                                                                                                                                                                                                                                                  | 0.19 | 0.16                | 0.14                                      | 0.12                      |                                      |
|                                                              | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20℃, 120Hz)                                                                                                                                               |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Low Temperature<br>Characteristics<br>(Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                               | 6.3V                                                                                                                                                                                                                                                                                  | 10V  | 16V                 | 25V                                       | 35V                       |                                      |
|                                                              | Z(-55℃)/Z(+20℃)                                                                                                                                                                                                                                                | 4                                                                                                                                                                                                                                                                                     | 3    | 3                   | 3                                         | 3                         |                                      |
| (at 120Hz)                                                   |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
| Endurance                                                    | The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105℃. |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |
|                                                              | Time                                                                                                                                                                                                                                                           | φ 10 : 4,000hours                                                                                                                                                                                                                                                                     |      | φ 12.5 : 5,000hours |                                           | φ 16 to φ 18 : 7,000hours |                                      |
|                                                              | Rated voltage                                                                                                                                                                                                                                                  | 6.3 to 10V <sub>dc</sub> (φ 10)                                                                                                                                                                                                                                                       |      |                     | 6.3 to 10V <sub>dc</sub> (φ 12.5 to φ 18) |                           | 16 to 35V <sub>dc</sub>              |
|                                                              | Capacitance change                                                                                                                                                                                                                                             | ≤ ±30% of the initial value                                                                                                                                                                                                                                                           |      |                     | ≤ ±20% of the initial value               |                           | ≤ ±20% of the initial value          |
|                                                              | D.F.(tan δ )                                                                                                                                                                                                                                                   | ≤300% of the initial specified value                                                                                                                                                                                                                                                  |      |                     | ≤200% of the initial specified value      |                           | ≤200% of the initial specified value |
|                                                              | Leakage current                                                                                                                                                                                                                                                | ≤The initial specified value                                                                                                                                                                                                                                                          |      |                     | ≤The initial specified value              |                           | ≤The initial specified value         |
|                                                              | Shelf Life                                                                                                                                                                                                                                                     | The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |      |                     |                                           |                           |                                      |
| Rated voltage                                                |                                                                                                                                                                                                                                                                | 6.3 to 10V <sub>dc</sub> (φ 10)                                                                                                                                                                                                                                                       |      |                     | 6.3 to 10V <sub>dc</sub> (φ 12.5 to φ 18) |                           | 16 to 35V <sub>dc</sub>              |
| Capacitance change                                           |                                                                                                                                                                                                                                                                | ≤ ±30% of the initial value                                                                                                                                                                                                                                                           |      |                     | ≤ ±20% of the initial value               |                           | ≤ ±20% of the initial value          |
| D.F.(tan δ )                                                 |                                                                                                                                                                                                                                                                | ≤300% of the initial specified value                                                                                                                                                                                                                                                  |      |                     | ≤200% of the initial specified value      |                           | ≤200% of the initial specified value |
| Leakage current                                              |                                                                                                                                                                                                                                                                | ≤The initial specified value                                                                                                                                                                                                                                                          |      |                     | ≤The initial specified value              |                           | ≤The initial specified value         |
|                                                              |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |      |                     |                                           |                           |                                      |

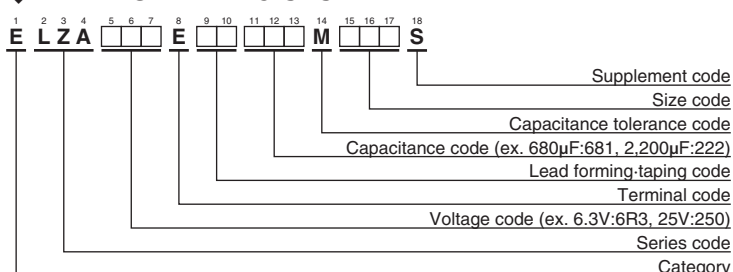
### DIMENSIONS [mm]

#### Terminal Code : E



| φD  | 10         | 12.5 | 16  | 18  |
|-----|------------|------|-----|-----|
| φd  | 0.6        | 0.6  | 0.8 | 0.8 |
| F   | 5.0        | 5.0  | 7.5 | 7.5 |
| φD' | φD+0.5max. |      |     |     |
| L'  | L+1.5max.  |      |     |     |

### PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

### ◆STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./<br>20°C, 100kHz) | Rated ripple<br>current<br>(mA <sub>rms</sub> /105°C, 100kHz) | Part No.           | WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./<br>20°C, 100kHz) | Rated ripple<br>current<br>(mA <sub>rms</sub> /105°C, 100kHz) | Part No.           |
|--------------------------|-------------|-----------------------|----------------------------------------|---------------------------------------------------------------|--------------------|--------------------------|-------------|-----------------------|----------------------------------------|---------------------------------------------------------------|--------------------|
| 6.3                      | 1,500       | 10 × 12.5             | 0.063                                  | 960                                                           | ELZA6R3E□□152MJC5S | 16                       | 3,300       | 12.5 × 25             | 0.022                                  | 2,350                                                         | ELZA160E□□332MK25S |
|                          | 1,800       | 10 × 16               | 0.049                                  | 1,240                                                         | ELZA6R3E□□182MJ16S |                          | 3,900       | 16 × 20               | 0.026                                  | 2,330                                                         | ELZA160E□□392ML20S |
|                          | 2,700       | 10 × 20               | 0.035                                  | 1,550                                                         | ELZA6R3E□□272MJ20S |                          | 5,600       | 16 × 25               | 0.019                                  | 2,760                                                         | ELZA160E□□562ML25S |
|                          | 3,300       | 10 × 25               | 0.033                                  | 1,740                                                         | ELZA6R3E□□332MJ25S |                          | 5,600       | 18 × 20               | 0.025                                  | 2,640                                                         | ELZA160E□□562MM20S |
|                          | 4,700       | 12.5 × 20             | 0.029                                  | 1,890                                                         | ELZA6R3E□□472MK20S |                          | 8,200       | 18 × 25               | 0.018                                  | 2,850                                                         | ELZA160E□□822MM25S |
|                          | 6,800       | 12.5 × 25             | 0.022                                  | 2,350                                                         | ELZA6R3E□□682MK25S | 25                       | 470         | 10 × 12.5             | 0.063                                  | 960                                                           | ELZA250E□□471MJC5S |
|                          | 6,800       | 16 × 20               | 0.026                                  | 2,330                                                         | ELZA6R3E□□682ML20S |                          | 680         | 10 × 16               | 0.049                                  | 1,240                                                         | ELZA250E□□681MJ16S |
|                          | 8,200       | 18 × 20               | 0.025                                  | 2,640                                                         | ELZA6R3E□□822MM20S |                          | 1,000       | 10 × 20               | 0.035                                  | 1,550                                                         | ELZA250E□□102MJ20S |
|                          | 10,000      | 16 × 25               | 0.019                                  | 2,760                                                         | ELZA6R3E□□103ML25S |                          | 1,200       | 10 × 25               | 0.033                                  | 1,740                                                         | ELZA250E□□122MJ25S |
|                          | 12,000      | 18 × 25               | 0.018                                  | 2,850                                                         | ELZA6R3E□□123MM25S |                          | 1,500       | 12.5 × 20             | 0.029                                  | 1,890                                                         | ELZA250E□□152MK20S |
|                          |             |                       |                                        |                                                               |                    |                          | 2,200       | 12.5 × 25             | 0.022                                  | 2,350                                                         | ELZA250E□□222MK25S |
| 10                       | 1,000       | 10 × 12.5             | 0.063                                  | 960                                                           | ELZA100E□□102MJC5S |                          | 2,700       | 16 × 20               | 0.026                                  | 2,330                                                         | ELZA250E□□272ML20S |
|                          | 1,500       | 10 × 16               | 0.049                                  | 1,240                                                         | ELZA100E□□152MJ16S |                          | 3,300       | 18 × 20               | 0.025                                  | 2,640                                                         | ELZA250E□□332MM20S |
|                          | 2,200       | 10 × 20               | 0.035                                  | 1,550                                                         | ELZA100E□□222MJ20S |                          | 3,900       | 16 × 25               | 0.019                                  | 2,760                                                         | ELZA250E□□392ML25S |
|                          | 2,700       | 10 × 25               | 0.033                                  | 1,740                                                         | ELZA100E□□272MJ25S |                          | 4,700       | 18 × 25               | 0.018                                  | 2,850                                                         | ELZA250E□□472MM25S |
|                          | 3,300       | 12.5 × 20             | 0.029                                  | 1,890                                                         | ELZA100E□□332MK20S | 35                       | 330         | 10 × 12.5             | 0.063                                  | 960                                                           | ELZA350E□□331MJC5S |
|                          | 4,700       | 12.5 × 25             | 0.022                                  | 2,350                                                         | ELZA100E□□472MK25S |                          | 470         | 10 × 16               | 0.049                                  | 1,240                                                         | ELZA350E□□471MJ16S |
|                          | 4,700       | 16 × 20               | 0.026                                  | 2,330                                                         | ELZA100E□□472ML20S |                          | 680         | 10 × 20               | 0.035                                  | 1,550                                                         | ELZA350E□□681MJ20S |
|                          | 6,800       | 16 × 25               | 0.019                                  | 2,760                                                         | ELZA100E□□682ML25S |                          | 820         | 10 × 25               | 0.033                                  | 1,740                                                         | ELZA350E□□821MJ25S |
|                          | 6,800       | 18 × 20               | 0.025                                  | 2,640                                                         | ELZA100E□□682MM20S |                          | 1,000       | 12.5 × 20             | 0.029                                  | 1,890                                                         | ELZA350E□□102MK20S |
|                          | 8,200       | 18 × 25               | 0.018                                  | 2,850                                                         | ELZA100E□□822MM25S |                          | 1,500       | 12.5 × 25             | 0.022                                  | 2,350                                                         | ELZA350E□□152MK25S |
| 16                       | 820         | 10 × 12.5             | 0.063                                  | 960                                                           | ELZA160E□□821MJC5S |                          | 1,800       | 16 × 20               | 0.026                                  | 2,330                                                         | ELZA350E□□182ML20S |
|                          | 1,000       | 10 × 16               | 0.049                                  | 1,240                                                         | ELZA160E□□102MJ16S |                          | 2,200       | 18 × 20               | 0.025                                  | 2,640                                                         | ELZA350E□□222MM20S |
|                          | 1,500       | 10 × 20               | 0.035                                  | 1,550                                                         | ELZA160E□□152MJ20S |                          | 2,700       | 16 × 25               | 0.019                                  | 2,760                                                         | ELZA350E□□272ML25S |
|                          | 1,800       | 10 × 25               | 0.033                                  | 1,740                                                         | ELZA160E□□182MJ25S |                          | 3,300       | 18 × 25               | 0.018                                  | 2,850                                                         | ELZA350E□□332MM25S |
|                          | 2,200       | 12.5 × 20             | 0.029                                  | 1,890                                                         | ELZA160E□□222MK20S |                          |             |                       |                                        |                                                               |                    |
|                          |             |                       |                                        |                                                               |                    |                          |             |                       |                                        |                                                               |                    |

□ : Enter the appropriate lead forming or taping code.

### ◆RATED RIPPLE CURRENT MULTIPLIERS

#### ● Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | 120  | 1k   | 10k  | 100k |
|-----------------|---------------|------|------|------|------|
| 330 to 470      |               | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 1,800    |               | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,200 to 3,900  |               | 0.75 | 0.90 | 0.95 | 1.00 |
| 4,700 to 12,000 |               | 0.85 | 0.95 | 0.98 | 1.00 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.