

# LXZ Series

- Adoption of innovative electrolyte and new technologies
- Very low impedance at high frequency
- Endurance with ripple current: 2,000 to 8,000 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.

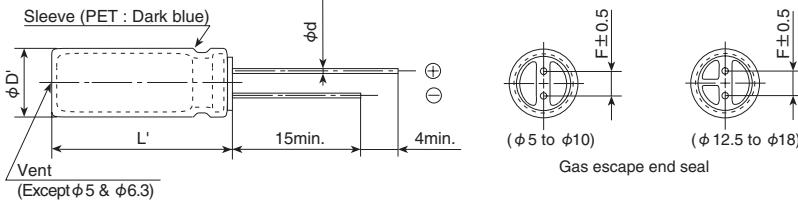


## SPECIFICATIONS

| Items                             | Characteristics   |  |
|-----------------------------------|---|--|
| <b>Category</b>                   | -55 to +105°C   |  |
| <b>Temperature Range</b>          | -55 to +105°C   |  |
| <b>Rated Voltage Range</b>        | 6.3 to 63V <sub>dc</sub>  |  |
| <b>Capacitance Tolerance</b>      | ±20% (M) (at 20°C, 120Hz)   |  |
| <b>Leakage Current</b>            | 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°C after 2 minutes)   |  |
| <b>Dissipation Factor (tan δ)</b> | Rated voltage (V <sub>dc</sub> )  | 6.3V 10V 16V 25V 35V 50V 63V   |
|                                   | tan δ (Max.)  | 0.22 0.19 0.16 0.14 0.12 0.10 0.08   |
|                                   | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)   |  |
| <b>Endurance</b>                  | The following specifications shall be satisfied when the capacitors are restored to 20°C 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°C.                        |  |
|                                   | Time  | φ 5 & 6.3 : 2,000hours φ 8 : 3,000hours φ 10 : 5,000hours φ 12.5 : 7,000hours φ 16 & 18 : 8,000hours |
|                                   | Capacitance change  | ≤ ±20% of the initial value  |
|                                   | D.F. (tan δ)  | ≤ 200% of the initial specified value  |
|                                   | Leakage current   | ≤ The initial specified value  |
| <b>Shelf Life</b>                 | 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. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |  |
|                                   | Capacitance change  | ≤ ±20% of the initial value  |
|                                   | D.F. (tan δ)  | ≤ 200% of the initial specified value  |
|                                   | Leakage current   | ≤ The initial specified value  |

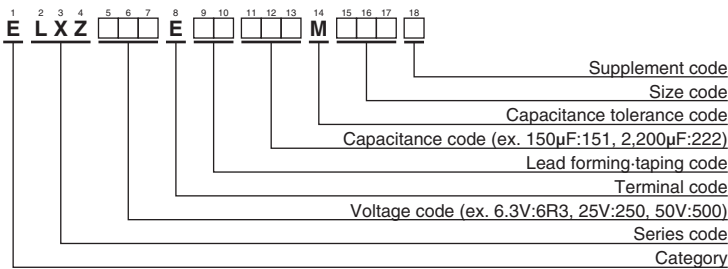
## DIMENSIONS [mm]

### Terminal Code : E



| φD  | 5          | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
|-----|------------|-----|-----|-----|------|-----|-----|
| φd  | 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 |
| φD' | φD+0.5max. |     |     |     |      |     |     |
| L'  | L+1.5max.  |     |     |     |      |     |     |

## PART NUMBERING SYSTEM



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



◆STANDARD RATINGS

| VV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./100kHz) |       | Rated<br>ripple<br>current<br>(mA <sub>rms</sub> /<br>105°C,<br>100kHz) | Part No.           | VV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Impedance<br>(Ω max./100kHz) |                    | Rated<br>ripple<br>current<br>(mA <sub>rms</sub> /<br>105°C,<br>100kHz) | Part No.           |
|--------------------------|-------------|-----------------------|------------------------------|-------|---|--------------------|--------------------------|-------------|-----------------------|------------------------------|--------------------|---|--------------------|
|                          |             |                       | 20°C                         | -10°C |   |                    |                          |             |                       | 20°C                         | -10°C              |   |                    |
| 35                       | 2,700       | 18×30                 | 0.018                        | 0.036 | 3,330   | ELXZ350E□□272MM30S | 50                       | 2,200       | 18×35                 | 0.023                        | 0.046              | 3,100   | ELXZ500E□□222MM35S |
|                          | 3,300       | 16×40                 | 0.015                        | 0.030 | 3,710   | ELXZ350E□□332ML40S |                          | 2,700       | 18×40                 | 0.020                        | 0.040              | 3,400   | ELXZ500E□□272MM40S |
|                          | 3,300       | 18×35                 | 0.016                        | 0.032 | 3,680   | ELXZ350E□□332MM35S |                          | 12          | 5×11.5                | 1.9                          | 4.0                | 145   | ELXZ630E□□120MEB5D |
|                          | 3,900       | 18×40                 | 0.015                        | 0.030 | 3,800   | ELXZ350E□□392MM40S |                          | 22          | 6.3×11.5              | 1.0                          | 2.0                | 240   | ELXZ630E□□220MFB5D |
|                          | 4,700       | 18×40                 | 0.015                        | 0.030 | 3,800   | ELXZ350E□□472MM40S |                          | 39          | 6.3×15                | 0.61                         | 1.4                | 330   | ELXZ630E□□390MF15D |
| 50                       | 22          | 5×11.5                | 0.90                         | 1.8   | 155   | ELXZ500E□□220MEB5D | 68                       | 8×12        | 0.34                  | 0.75                         | 405                | ELXZ630E□□680MH12D  |                    |
|                          | 47          | 6.3×11.5              | 0.45                         | 0.90  | 260   | ELXZ500E□□470MFB5D | 100                      | 8×15        | 0.27                  | 0.65                         | 535                | ELXZ630E□□101MH15D  |                    |
|                          | 68          | 6.3×15                | 0.31                         | 0.62  | 360   | ELXZ500E□□680MF15D | 100                      | 10×12.5     | 0.255                 | 0.51                         | 540                | ELXZ630E□□101MJC5S  |                    |
|                          | 100         | 8×12                  | 0.22                         | 0.44  | 485   | ELXZ500E□□101MH12D | 120                      | 10×16       | 0.19                  | 0.38                         | 600                | ELXZ630E□□121MJ16S  |                    |
|                          | 120         | 8×15                  | 0.16                         | 0.32  | 635   | ELXZ500E□□121MH15D | 150                      | 8×20        | 0.21                  | 0.52                         | 690                | ELXZ630E□□151MH20D  |                    |
|                          | 120         | 10×12.5               | 0.16                         | 0.32  | 620   | ELXZ500E□□121MJC5S | 180                      | 10×20       | 0.145                 | 0.29                         | 890                | ELXZ630E□□181MJ20S  |                    |
|                          | 180         | 8×20                  | 0.12                         | 0.24  | 730   | ELXZ500E□□181MH20D | 220                      | 10×25       | 0.13                  | 0.26                         | 1,050              | ELXZ630E□□221MJ25S  |                    |
|                          | 180         | 10×16                 | 0.13                         | 0.26  | 850   | ELXZ500E□□181MJ16S | 330                      | 10×30       | 0.090                 | 0.18                         | 1,300              | ELXZ630E□□331MJ30S  |                    |
|                          | 220         | 10×20                 | 0.088                        | 0.18  | 1,050   | ELXZ500E□□221MJ20S | 330                      | 12.5×20     | 0.085                 | 0.17                         | 1,290              | ELXZ630E□□331MK20S  |                    |
|                          | 330         | 10×25                 | 0.073                        | 0.15  | 1,250   | ELXZ500E□□331MJ25S | 390                      | 12.5×25     | 0.070                 | 0.14                         | 1,720              | ELXZ630E□□391MK25S  |                    |
|                          | 390         | 10×30                 | 0.054                        | 0.11  | 1,500   | ELXZ500E□□391MJ30S | 470                      | 12.5×30     | 0.055                 | 0.11                         | 2,090              | ELXZ630E□□471MK30S  |                    |
|                          | 390         | 12.5×20               | 0.059                        | 0.12  | 1,480   | ELXZ500E□□391MK20S | 470                      | 16×20       | 0.059                 | 0.12                         | 1,770              | ELXZ630E□□471ML20S  |                    |
|                          | 470         | 12.5×20               | 0.059                        | 0.12  | 1,480   | ELXZ500E□□471MK20S | 680                      | 12.5×35     | 0.047                 | 0.094                        | 2,270              | ELXZ630E□□681MK35S  |                    |
|                          | 560         | 12.5×25               | 0.044                        | 0.088 | 1,840   | ELXZ500E□□561MK25S | 680                      | 16×25       | 0.050                 | 0.10                         | 2,160              | ELXZ630E□□681ML25S  |                    |
|                          | 680         | 12.5×30               | 0.039                        | 0.078 | 2,220   | ELXZ500E□□681MK30S | 680                      | 18×20       | 0.055                 | 0.11                         | 2,290              | ELXZ630E□□681MM20S  |                    |
|                          | 680         | 16×20                 | 0.048                        | 0.096 | 1,840   | ELXZ500E□□681ML20S | 820                      | 12.5×40     | 0.042                 | 0.084                        | 2,560              | ELXZ630E□□821MK40S  |                    |
|                          | 820         | 12.5×35               | 0.033                        | 0.066 | 2,290   | ELXZ500E□□821MK35S | 820                      | 16×30       | 0.043                 | 0.086                        | 2,670              | ELXZ630E□□821ML30S  |                    |
|                          | 820         | 18×20                 | 0.042                        | 0.084 | 1,980   | ELXZ500E□□821MM20S | 820                      | 18×25       | 0.043                 | 0.086                        | 2,590              | ELXZ630E□□821MM25S  |                    |
|                          | 1,000       | 12.5×40               | 0.029                        | 0.058 | 2,500   | ELXZ500E□□102MK40S | 1,000                    | 16×30       | 0.043                 | 0.086                        | 2,670              | ELXZ630E□□102ML30S  |                    |
|                          | 1,000       | 16×25                 | 0.034                        | 0.068 | 2,240   | ELXZ500E□□102ML25S | 1,000                    | 16×35       | 0.036                 | 0.072                        | 2,770              | ELXZ630E□□102ML35S  |                    |
| 1,200                    | 16×30       | 0.028                 | 0.056                        | 2,700 | ELXZ500E□□122ML30S  | 1,200              | 16×40                    | 0.030       | 0.060                 | 2,850                        | ELXZ630E□□122ML40S |   |                    |
| 1,200                    | 18×25       | 0.029                 | 0.058                        | 2,610 | ELXZ500E□□122MM25S  | 1,200              | 18×30                    | 0.032       | 0.064                 | 2,950                        | ELXZ630E□□122MM30S |   |                    |
| 1,500                    | 16×35       | 0.025                 | 0.050                        | 2,800 | ELXZ500E□□152ML35S  | 1,500              | 18×35                    | 0.030       | 0.060                 | 3,100                        | ELXZ630E□□152MM35S |   |                    |
| 1,800                    | 16×40       | 0.021                 | 0.042                        | 3,200 | ELXZ500E□□182ML40S  | 1,800              | 18×40                    | 0.025       | 0.050                 | 3,210                        | ELXZ630E□□182MM40S |   |                    |
| 1,800                    | 18×30       | 0.025                 | 0.050                        | 3,000 | ELXZ500E□□182MM30S  | 2,200              | 18×40                    | 0.025       | 0.050                 | 3,210                        | ELXZ630E□□222MM40S |   |                    |

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | 120  | 1k   | 10k  | 100k |
|-----------------|---------------|------|------|------|------|
| 12 to 180       |               | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 560      |               | 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 18,000 |               | 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.