

## Aluminum Electrolytic Type / Surface Mount Type

RoHS compliance

**CE-LX** Series

Low Impedance

Long Life

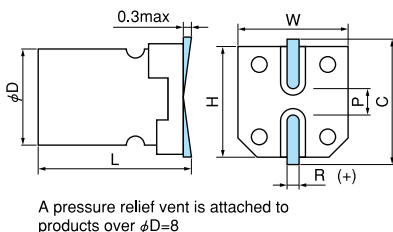
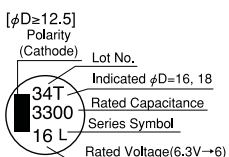
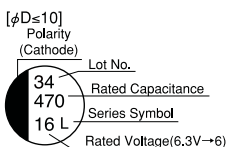


- 105°C, 2,000 to 5,000hrs.
- Solvent proof (within 2 minutes)

## ■ Specifications

| Items                              | Condition                                                   |                                                                                                | Specifications                                              |      |      |      |      |      |      |      |      |
|------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------|------|------|------|------|------|------|------|
| Rated voltage (V)                  | —                                                           |                                                                                                | 6.3                                                         | 10   | 16   | 25   | 35   | 50   | 63   | 80   | 100  |
| Surge voltage (V)                  | Room temperature                                            |                                                                                                | 8.0                                                         | 13   | 20   | 32   | 44   | 63   | 79   | 100  | 125  |
| Category temperature range (°C)    | —                                                           |                                                                                                | −55 to +105                                                 |      |      |      |      |      |      |      |      |
| Capacitance tolerance (%)          | 120Hz/20°C                                                  |                                                                                                | M : ±20                                                     |      |      |      |      |      |      |      |      |
| Dissipation Factor (tan δ)         | 120Hz/20°C                                                  | φ 4 to φ 6.3                                                                                   | 0.26                                                        | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.08 | —    | —    |
|                                    |                                                             | φ 8 to φ 18                                                                                    | 0.28                                                        | 0.24 | 0.22 | 0.16 | 0.14 | 0.14 | 0.08 | 0.08 | 0.07 |
|                                    |                                                             | When rated capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. |                                                             |      |      |      |      |      |      |      |      |
| Leakage current (LC)               | μA/after 2minutes (max)                                     |                                                                                                | The greater value of either 0.01CV or 3                     |      |      |      |      |      |      |      |      |
| Impedance ratio at low temperature | Based the value at 120Hz, +20°C                             | −40°C Z/Z <sub>20°C</sub>                                                                      | 3                                                           | 3    | 3    | 3    | 3    | 3    | 2    | 2    | 2    |
|                                    |                                                             | −55°C Z/Z <sub>20°C</sub>                                                                      | 4                                                           | 4    | 4    | 3    | 3    | 3    | 3    | 3    | 3    |
| Endurance                          | 105°C rated voltage applied (With the rated ripple current) | Test                                                                                           | φ 4 to φ 6.3, φ 10×7.7 : 2,000hrs., φ 8 to φ 18 : 5,000hrs. |      |      |      |      |      |      |      |      |
|                                    |                                                             | ΔC/C                                                                                           | Within ±30% of the initial value                            |      |      |      |      |      |      |      |      |
|                                    |                                                             | tan δ                                                                                          | ≤ 3 times the initial specified value                       |      |      |      |      |      |      |      |      |
|                                    |                                                             | LC                                                                                             | ≤ The initial specified value                               |      |      |      |      |      |      |      |      |

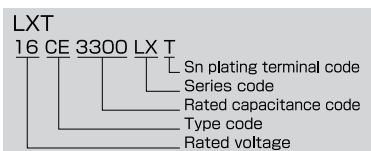
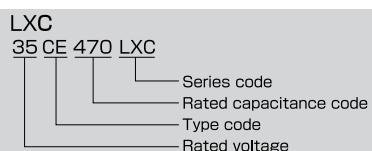
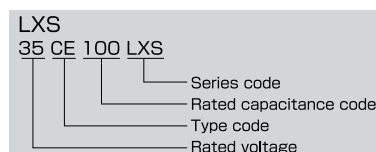
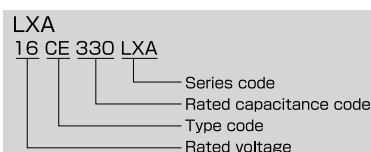
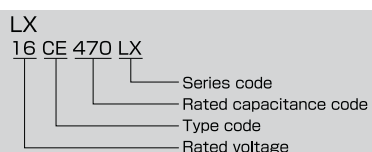
## ■ Marking, Dimensions



(Unit : mm)

| D <sup>+0.5max</sup> | L <sup>±0.3</sup>    | W <sup>±0.2</sup> | H <sup>±0.2</sup> | C <sup>±0.2</sup> | R          | P <sup>±0.2</sup> |
|----------------------|----------------------|-------------------|-------------------|-------------------|------------|-------------------|
| 4                    | 6.0                  | 4.3               | 4.3               | 5.0               | 0.5 to 0.8 | 1.0               |
| 5                    | 6.0                  | 5.3               | 5.3               | 6.0               | 0.5 to 0.8 | 1.4               |
| 6.3                  | 6.0                  | 6.6               | 6.6               | 7.3               | 0.5 to 0.8 | 2.2               |
| 6.3                  | 7.7                  | 6.6               | 6.6               | 7.3               | 0.5 to 0.8 | 2.2               |
| 8                    | 10.2                 | 8.3               | 8.3               | 9.0               | 0.7 to 1.0 | 3.2               |
| 10                   | 7.7                  | 10.3              | 10.3              | 11.0              | 1.0 to 1.4 | 4.6               |
| 10                   | 10.2                 | 10.3              | 10.3              | 11.0              | 1.0 to 1.4 | 4.6               |
| 10                   | 13.5 <sup>±0.5</sup> | 10.3              | 10.3              | 11.0              | 1.0 to 1.4 | 4.6               |
| 12.5                 | 13.5 <sup>±0.5</sup> | 12.8              | 12.8              | 13.5              | 1.0 to 1.4 | 4.6               |
| 16                   | 16.5 <sup>±0.5</sup> | 16.3              | 16.3              | 17.3              | 1.7 to 2.1 | 7.0               |
| 18                   | 16.5 <sup>±1.0</sup> | 19.0              | 19.0              | 20.0              | 1.7 to 2.1 | 7.0               |
| 18                   | 21.5 <sup>±1.0</sup> | 19.0              | 19.0              | 20.0              | 1.7 to 2.1 | 7.0               |

## ■ Model No.



■ Size List, Impedance, Rated Ripple Current

| μF \ V | 6.3       |       |      | 10        |       |      | 16        |       |      | 25        |       |      | 35         |       |      |
|--------|-----------|-------|------|-----------|-------|------|-----------|-------|------|-----------|-------|------|------------|-------|------|
| 4.7    |           |       |      |           |       |      |           |       |      |           |       |      | 4×6.0      | 1.45  | 90   |
| 10     |           |       |      |           |       |      |           |       |      | 4×6.0     | 1.45  | 90   | 5×6.0      | 0.70  | 170  |
| 15     |           |       |      |           |       |      | 4×6.0     | 1.45  | 90   | 5×6.0     | 0.70  | 170  | 5×6.0      | 0.70  | 170  |
| 22     |           |       |      | 4×6.0     | 1.45  | 90   | 5×6.0     | 0.70  | 170  | 5×6.0     | 0.70  | 170  | 5×6.0      | 0.70  | 170  |
| 27     | 4×6.0     | 1.45  | 90   | 5×6.0     | 0.70  | 170  | 5×6.0     | 0.70  | 170  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0    | 0.39  | 250  |
| 33     | 5×6.0     | 0.70  | 170  | 5×6.0     | 0.70  | 170  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0    | 0.39  | 250  |
| 47     | 5×6.0     | 0.70  | 170  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0    | 0.39  | 250  |
| 56     | 5×6.0     | 0.70  | 170  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×7.7    | 0.30  | 300  |
| 68     | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×7.7    | 0.30  | 300  |
| 100    | 5×6.0 ★2  | 0.70  | 170  |           |       |      |           |       |      |           |       |      | 6.3×7.7 ★2 | 0.30  | 300  |
|        | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×7.7   | 0.30  | 300  | 8×10.2     | 0.17  | 600  |
| 150    | 6.3×6.0   | 0.39  | 250  | 6.3×6.0   | 0.39  | 250  | 6.3×7.7   | 0.30  | 300  | 8×10.2    | 0.17  | 600  | 8×10.2     | 0.17  | 600  |
|        |           |       |      |           |       |      |           |       |      |           |       |      | 10×7.7 ★1  | 0.17  | 600  |
| 220    | 6.3×6.0   | 0.39  | 250  | 6.3×7.7   | 0.30  | 300  | 6.3×7.7   | 0.30  | 300  | 8×10.2    | 0.17  | 600  | 8×10.2     | 0.17  | 600  |
|        |           |       |      |           |       |      |           |       |      |           |       |      | 10×7.7 ★1  | 0.17  | 600  |
| 330    | 6.3×7.7   | 0.30  | 300  | 8×10.2    | 0.17  | 600  | 8×10.2    | 0.17  | 600  | 8×10.2    | 0.17  | 600  | 10×10.2    | 0.090 | 850  |
|        |           |       |      |           |       |      | 10×7.7 ★1 | 0.17  | 600  |           |       |      |            |       |      |
| 470    | 8×10.2    | 0.17  | 600  | 8×10.2    | 0.17  | 600  | 8×10.2    | 0.17  | 600  | 10×10.2   | 0.090 | 850  | 10×13.5★3  | 0.070 | 950  |
|        |           |       |      | 10×7.7 ★1 | 0.17  | 600  |           |       |      |           |       |      | 12.5×13.5  | 0.060 | 1100 |
| 680    | 8×10.2    | 0.17  | 600  | 10×10.2   | 0.090 | 850  | 10×10.2   | 0.090 | 850  | 10×13.5★3 | 0.070 | 950  |            |       |      |
|        | 10×7.7 ★1 | 0.17  | 600  |           |       |      |           |       |      | 12.5×13.5 | 0.060 | 1100 | 12.5×13.5  | 0.060 | 1100 |
| 1000   |           |       |      |           |       |      | 10×13.5★3 | 0.070 | 950  |           |       |      |            |       |      |
|        | 8×10.2    | 0.17  | 600  | 10×10.2   | 0.090 | 850  | 12.5×13.5 | 0.060 | 1100 | 12.5×13.5 | 0.060 | 1100 | 16×16.5    | 0.035 | 1800 |
| 1500   |           |       |      | 10×13.5★3 | 0.070 | 950  |           |       |      |           |       |      |            |       |      |
|        | 10×10.2   | 0.090 | 850  | 12.5×13.5 | 0.060 | 1100 | 12.5×13.5 | 0.060 | 1100 | 16×16.5   | 0.035 | 1800 | 16×16.5    | 0.035 | 1800 |
| 2200   | 12.5×13.5 | 0.060 | 1100 | 12.5×13.5 | 0.060 | 1100 |           |       |      | 16×16.5   | 0.035 | 1800 | 18×16.5    | 0.033 | 2060 |
| 2700   |           |       |      |           |       |      |           |       |      |           |       |      | 18×21.5    | 0.028 | 2260 |
| 3300   |           |       |      |           |       |      | 16×16.5   | 0.035 | 1800 | 18×16.5   | 0.033 | 2060 |            |       |      |
| 3900   |           |       |      |           |       |      |           |       |      | 18×21.5   | 0.028 | 2260 |            |       |      |
| 4700   |           |       |      | 16×16.5   | 0.035 | 1800 | 18×16.5   | 0.033 | 2060 |           |       |      |            |       |      |
| 5600   |           |       |      |           |       |      | 18×21.5   | 0.028 | 2260 |           |       |      |            |       |      |
| 6800   | 16×16.5   | 0.035 | 1800 | 18×16.5   | 0.033 | 2060 |           |       |      |           |       |      |            |       |      |
| 8200   | 18×16.5   | 0.033 | 2060 | 18×21.5   | 0.028 | 2260 |           |       |      |           |       |      |            |       |      |
| 10000  | 18×16.5   | 0.033 | 2060 |           |       |      |           |       |      |           |       |      |            |       |      |
| 12000  | 18×21.5   | 0.028 | 2260 |           |       |      |           |       |      |           |       |      |            |       |      |

| μF \ V | 50        |       |      | 63        |       |      | 80        |       |         | 100       |       |      |
|--------|-----------|-------|------|-----------|-------|------|-----------|-------|---------|-----------|-------|------|
| 4.7    | 4×6.0     | 2.90  | 60   |           |       |      |           |       |         |           |       |      |
| 10     | 6.3×6.0   | 0.88  | 165  | 6.3×6.0   | 1.50  | 80   |           |       |         |           |       |      |
| 22     | 6.3×6.0   | 0.88  | 165  | 6.3×7.7   | 1.20  | 120  |           |       |         |           |       |      |
| 27     | 6.3×7.7   | 0.68  | 195  |           |       |      |           |       |         |           |       |      |
| 33     | 6.3×7.7   | 0.68  | 195  |           |       |      |           |       | 10×10.2 | 0.65      | 200   |      |
| 47     | 6.3×7.7   | 0.68  | 195  | 10×7.7 ★1 | 0.70  | 200  | 10×10.2   | 0.65  | 200     | 12.5×13.5 | 0.32  | 500  |
| 56     | 8×10.2    | 0.34  | 350  |           |       |      |           |       |         |           |       |      |
| 68     | 8×10.2    | 0.34  | 350  |           |       |      |           |       |         | 12.5×13.5 | 0.32  | 500  |
| 100    | 8×10.2    | 0.34  | 350  | 12.5×13.5 | 0.16  | 800  | 12.5×13.5 | 0.32  | 500     | 16×16.5   | 0.17  | 793  |
|        | 10×7.7 ★1 | 0.34  | 330  |           |       |      |           |       |         |           |       |      |
| 150    | 10×10.2   | 0.18  | 670  | 12.5×13.5 | 0.16  | 800  | 12.5×13.5 | 0.32  | 500     | 16×16.5   | 0.17  | 793  |
| 220    | 10×10.2   | 0.18  | 670  | 12.5×13.5 | 0.16  | 800  |           |       |         | 18×16.5   | 0.153 | 917  |
| 330    | 12.5×13.5 | 0.12  | 900  | 16×16.5   | 0.082 | 1410 | 16×16.5   | 0.17  | 793     | 18×21.5   | 0.083 | 1230 |
| 470    | 16×16.5   | 0.073 | 1610 | 16×16.5   | 0.082 | 1410 | 18×16.5   | 0.153 | 917     |           |       |      |
| 680    | 16×16.5   | 0.073 | 1610 | 18×16.5   | 0.080 | 1690 |           |       |         |           |       |      |
| 1000   | 16×16.5   | 0.073 | 1610 | 18×21.5   | 0.055 | 1960 |           |       |         |           |       |      |
| 1200   | 18×16.5   | 0.068 | 1900 |           |       |      |           |       |         |           |       |      |
| 1500   | 18×21.5   | 0.042 | 2180 |           |       |      |           |       |         |           |       |      |

Please refer to page 15 for the ripple current frequency coefficient.

★1 LXA  
★2 LXS  
★3 LXC

Case size: φD×L (mm)  
φ16, φ18: CE-LXT

Impedance (Ω)  
max at 100kHz, 20°C

Rated ripple current  
mA Arms (100kHz, 105°C)

|            |
|------------|
| CE-BE      |
| CE-BD      |
| CE-BS      |
| CE-BSS     |
| CE-FE      |
| CE-LD      |
| CE-FU      |
| CE-FS      |
| CE-FSS     |
| CE-FH      |
| CE-GA      |
| CE-AX      |
| CE-KX      |
| CE-LX      |
| CE-LS      |
| CE-LH      |
| CE-LL      |
| CE-PC      |
| CE-PH      |
| CE-PF      |
| CE-NP      |
| CE-FN      |
| ME-SWB     |
| ME-UZ·SZ   |
| ME-UAX·SAX |
| ME-SWG     |
| ME-LS      |
| ME-HC      |
| ME-CZ      |
| ME-CA      |
| ME-CX      |
| ME-AX      |
| ME-WX      |
| ME-WA      |
| ME-WL      |
| ME-WG      |
| ME-PX      |
| ME-HPC·HPD |
| ME-FC·FD   |
| ME-FAZ     |
| ME-FH      |
| ME-SWN     |
| ME-HWN     |