

# LBG Series

- For airbag application
- High capacitance, low impedance, and good low temperature behavior
- Endurance with ripple current : 5,000 hours at 105°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

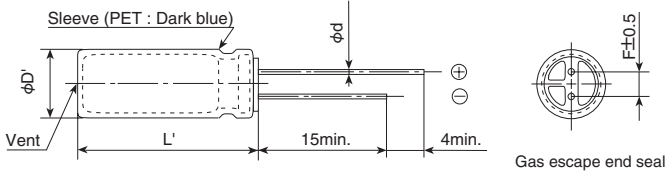


## ◆ SPECIFICATIONS

| Items   | Characteristics   |                                      |
|---|---|--------------------------------------|
| <b>Category</b>   | -55 to +105°C   |                                      |
| <b>Temperature Range</b>                                      | -55 to +105°C   |                                      |
| <b>Rated Voltage Range</b>                                    | 25 & 35V <sub>dc</sub>  |                                      |
| <b>Capacitance Range</b>                                      | 1,000 to 11,000µF (at 20°C, 120Hz)  |                                      |
| <b>Capacitance Tolerance</b>                                  | 0 to +30% (A) (at 20°C, 120Hz)  |                                      |
| <b>Leakage Current</b>  | I=0.01CV<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> )  | 25V 35V                              |
|   | tan δ (Max.)  | 0.20 0.16                            |
|   | When nominal capacitance exceeds 1,000µF, add 0.02 to the value above for each 1,000µF increase. (at 20°C, 120Hz)   |                                      |
| <b>Low Temperature Characteristics (Max. Impedance Ratio)</b> | Rated voltage (V <sub>dc</sub> )  | 25V 35V                              |
|   | Z(-55°C)/Z(+20°C)   | 3 3                                  |
|   | Impedance at -40°C and 20°C 100kHz in the STANDARD RATINGS (at 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 5,000 hours at 105°C.   |                                      |
|   | 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        |

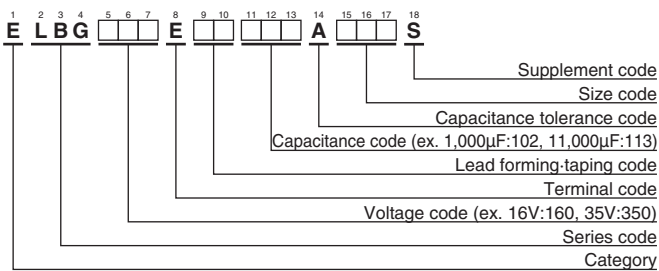
## ◆ DIMENSIONS [mm]

- Terminal Code : E



|     | 12.5       | 14.5 | 16  | 18  |
|-----|------------|------|-----|-----|
| φD  | 12.5       | 14.5 | 16  | 18  |
| φd  | 0.6        | 0.8  | 0.8 | 0.8 |
| F   | 5.0        | 7.5  | 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>φ D×L(mm) | Impedance (Ω max./100kHz) |       | Rated ripple current<br>(mArms/105°C, 100kHz) | Part No.             |
|--------------------------|-------------|------------------------|---------------------------|-------|---|----------------------|
|                          |             |                        | 20°C                      | -40°C |   |                      |
| 25                       | 1,700       | 12.5 × 20              | 0.057                     | 0.29  | 1,700   | ELBG250E □□ 172AK20S |
|                          | 2,400       | 12.5 × 25              | 0.045                     | 0.23  | 2,000   | ELBG250E □□ 242AK25S |
|                          | 2,400       | 14.5 × 20              | 0.051                     | 0.26  | 2,000   | ELBG250E □□ 242AU20S |
|                          | 2,800       | 12.5 × 30              | 0.039                     | 0.20  | 2,300   | ELBG250E □□ 282AK30S |
|                          | 3,000       | 16 × 20                | 0.044                     | 0.22  | 2,250   | ELBG250E □□ 302AL20S |
|                          | 3,400       | 14.5 × 25              | 0.041                     | 0.21  | 2,400   | ELBG250E □□ 342AU25S |
|                          | 3,500       | 12.5 × 35              | 0.033                     | 0.17  | 2,700   | ELBG250E □□ 352AK35S |
|                          | 4,200       | 16 × 25                | 0.033                     | 0.17  | 2,600   | ELBG250E □□ 422AL25S |
|                          | 4,200       | 18 × 20                | 0.042                     | 0.21  | 2,500   | ELBG250E □□ 422AM20S |
|                          | 4,500       | 12.5 × 40              | 0.027                     | 0.14  | 3,100   | ELBG250E □□ 452AK40S |
|                          | 4,600       | 14.5 × 31.5            | 0.032                     | 0.16  | 2,700   | ELBG250E □□ 462AUN3S |
|                          | 5,400       | 14.5 × 35.5            | 0.028                     | 0.14  | 3,100   | ELBG250E □□ 542AUP1S |
|                          | 5,600       | 16 × 31.5              | 0.026                     | 0.13  | 3,200   | ELBG250E □□ 562ALN3S |
|                          | 6,000       | 18 × 25                | 0.030                     | 0.15  | 2,800   | ELBG250E □□ 602AM25S |
|                          | 6,400       | 14.5 × 40              | 0.025                     | 0.13  | 3,400   | ELBG250E □□ 642AU40S |
|                          | 6,600       | 16 × 35.5              | 0.023                     | 0.12  | 3,500   | ELBG250E □□ 662ALP1S |
|                          | 7,800       | 16 × 40                | 0.021                     | 0.11  | 3,800   | ELBG250E □□ 782AL40S |
| 7,900                    | 18 × 31.5   | 0.024                  | 0.12                      | 3,500 | ELBG250E □□ 792AMN3S                          |                      |
| 9,200                    | 18 × 35.5   | 0.022                  | 0.11                      | 3,700 | ELBG250E □□ 922AMP1S                          |                      |
| 11,000                   | 18 × 40     | 0.020                  | 0.10                      | 4,000 | ELBG250E □□ 113AM40S                          |                      |
| 35                       | 1,000       | 12.5 × 20              | 0.057                     | 0.29  | 1,700   | ELBG350E □□ 102AK20S |
|                          | 1,400       | 12.5 × 25              | 0.045                     | 0.23  | 2,000   | ELBG350E □□ 142AK25S |
|                          | 1,400       | 14.5 × 20              | 0.051                     | 0.26  | 2,000   | ELBG350E □□ 142AU20S |
|                          | 1,600       | 12.5 × 30              | 0.039                     | 0.20  | 2,300   | ELBG350E □□ 162AK30S |
|                          | 1,800       | 16 × 20                | 0.044                     | 0.22  | 2,250   | ELBG350E □□ 182AL20S |
|                          | 2,000       | 14.5 × 25              | 0.041                     | 0.21  | 2,400   | ELBG350E □□ 202AU25S |
|                          | 2,100       | 12.5 × 35              | 0.033                     | 0.17  | 2,700   | ELBG350E □□ 212AK35S |
|                          | 2,500       | 16 × 25                | 0.033                     | 0.17  | 2,600   | ELBG350E □□ 252AL25S |
|                          | 2,500       | 18 × 20                | 0.042                     | 0.21  | 2,500   | ELBG350E □□ 252AM20S |
|                          | 2,700       | 12.5 × 40              | 0.027                     | 0.14  | 3,100   | ELBG350E □□ 272AK40S |
|                          | 2,800       | 14.5 × 31.5            | 0.032                     | 0.16  | 2,700   | ELBG350E □□ 282AUN3S |
|                          | 3,200       | 14.5 × 35.5            | 0.028                     | 0.14  | 3,100   | ELBG350E □□ 322AUP1S |
|                          | 3,400       | 16 × 31.5              | 0.026                     | 0.13  | 3,200   | ELBG350E □□ 342ALN3S |
|                          | 3,600       | 18 × 25                | 0.030                     | 0.15  | 2,800   | ELBG350E □□ 362AM25S |
|                          | 3,800       | 14.5 × 40              | 0.025                     | 0.13  | 3,400   | ELBG350E □□ 382AU40S |
|                          | 4,000       | 16 × 35.5              | 0.023                     | 0.12  | 3,500   | ELBG350E □□ 402ALP1S |
|                          | 4,700       | 16 × 40                | 0.021                     | 0.11  | 3,800   | ELBG350E □□ 472AL40S |
| 4,800                    | 18 × 31.5   | 0.024                  | 0.12                      | 3,500 | ELBG350E □□ 482AMN3S                          |                      |
| 5,600                    | 18 × 35.5   | 0.022                  | 0.11                      | 3,700 | ELBG350E □□ 562AMP1S                          |                      |
| 6,700                    | 18 × 40     | 0.020                  | 0.10                      | 4,000 | ELBG350E □□ 672AM40S                          |                      |

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

**◆RATED RIPPLE CURRENT MULTIPLIERS**

## ● Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 120  | 1k   | 10k  | 100k |
|---------------------------------|------|------|------|------|
| 1,000 to 2,000                  | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,100 to 3,800                  | 0.75 | 0.90 | 0.95 | 1.00 |
| 4,000 to 11,000                 | 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.