

LLA Series

- Endurance : 1,000 hours at 85°C
- Low leakage current type
- Solvent resistant type
- RoHS Compliant

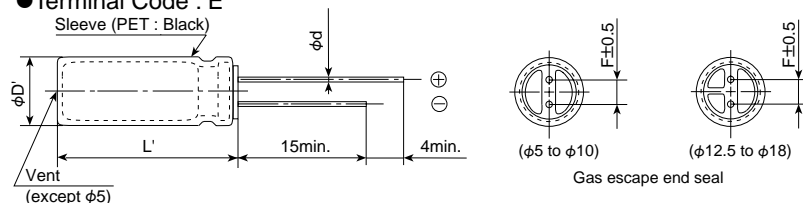


◆SPECIFICATIONS

| Items | Characteristics | | | | | | |
|---------------------------------|--|--------------------------------------|------|------|------|------|------|
| Category | -40 to +85°C | | | | | | |
| Temperature Range | -40 to +85°C | | | | | | |
| Rated Voltage Range | 6.3 to 50V _{dc} | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | | | | | | |
| Leakage Current | I=0.002CV or 0.2μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 1 minute) | | | | | | |
| Dissipation Factor (tanδ) | Rated voltage (V _{dc}) | 6.3V | 10V | 16V | 25V | 35V | 50V |
| | tanδ (Max.) | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 |
| | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz) | | | | | | |
| Low Temperature Characteristics | ○ Leakage current Leakage current at 85°C : ≤10 times of the 20°C specified value ○ Max. Impedance Ratio (at 120Hz) $Z(-25°C)/Z(+20°C) ≤ 4$, $Z(-40°C)/Z(+20°C) ≤ 8$ | | | | | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 85°C. | | | | | | |
| | Capacitance change | ≤±20% of the initial value | | | | | |
| | D.F. (tanδ) | ≤150% of the initial specified value | | | | | |
| | Leakage current | ≤The initial specified value | | | | | |
| Shelf Life | The same specifications as "Endurance" shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 85°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. | | | | | | |
| Shelf Test | The following specifications shall be satisfied when the capacitors are restored to 20°C after leaving them for 6 months at a nominal temperature (-10 to +40°C) without voltage applied. | | | | | | |
| | Capacitance change | ≤±20% of the initial value | | | | | |
| | D.F. (tanδ) | ≤150% of the initial specified value | | | | | |
| | Leakage current | ≤The initial specified value | | | | | |

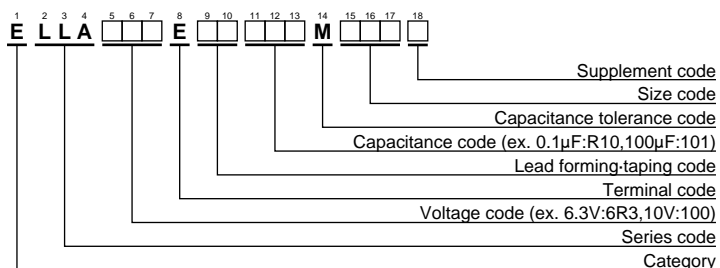
◆DIMENSIONS [mm]

- 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



Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA _{rms} /85°C,120Hz) | Part No. | WV (Vdc) | Cap (μF) | Case size φD×L(mm) | tanδ | Rated ripple current (mA _{rms} /85°C,120Hz) | Part No. |
|----------|----------|--------------------|-------|--|--------------------|--------------------|----------|--------------------|-------|--|--------------------|
| 6.3 | 33 | 5×11 | 0.24 | 55 | ELLA6R3E□□330ME11D | 25 | 33 | 5×11 | 0.14 | 97 | ELLA250E□□330ME11D |
| | 47 | 5×11 | 0.24 | 79 | ELLA6R3E□□470ME11D | | 47 | 5×11 | 0.14 | 115 | ELLA250E□□470ME11D |
| | 100 | 5×11 | 0.24 | 130 | ELLA6R3E□□101ME11D | | 100 | 6.3×11 | 0.14 | 190 | ELLA250E□□101MF11D |
| | 220 | 6.3×11 | 0.24 | 230 | ELLA6R3E□□221MF11D | | 220 | 8×11.5 | 0.14 | 320 | ELLA250E□□221MHB5D |
| | 330 | 6.3×11 | 0.24 | 280 | ELLA6R3E□□331MF11D | | 330 | 10×12.5 | 0.14 | 470 | ELLA250E□□331MJC5S |
| | 470 | 8×11.5 | 0.24 | 380 | ELLA6R3E□□471MHB5D | | 470 | 10×16 | 0.14 | 620 | ELLA250E□□471MJ16S |
| | 1,000 | 10×12.5 | 0.24 | 650 | ELLA6R3E□□102MJC5S | | 1,000 | 12.5×20 | 0.14 | 1,090 | ELLA250E□□102MK20S |
| | 2,200 | 12.5×20 | 0.26 | 1,150 | ELLA6R3E□□222MK20S | | 2,200 | 16×25 | 0.16 | 1,660 | ELLA250E□□222ML25S |
| | 3,300 | 12.5×20 | 0.28 | 1,380 | ELLA6R3E□□332MK20S | | 3,300 | 16×31.5 | 0.18 | 2,070 | ELLA250E□□332MLN3S |
| | 4,700 | 16×25 | 0.30 | 1,880 | ELLA6R3E□□472ML25S | | 4,700 | 18×35.5 | 0.20 | 2,520 | ELLA250E□□472MMP1S |
| | 6,800 | 16×25 | 0.34 | 2,120 | ELLA6R3E□□682ML25S | | 6,800 | 18×40 | 0.24 | 2,830 | ELLA250E□□682MM40S |
| | 10,000 | 16×31.5 | 0.42 | 2,500 | ELLA6R3E□□103MLN3S | | 35 | 4.7 | 5×11 | 0.12 | 40 |
| 15,000 | 18×35.5 | 0.52 | 2,990 | ELLA6R3E□□153MMP1S | 10 | 5×11 | | 0.12 | 58 | ELLA350E□□100ME11D | |
| 10 | 22 | 5×11 | 0.20 | 59 | ELLA100E□□220ME11D | 22 | | 5×11 | 0.12 | 87 | ELLA350E□□220ME11D |
| | 33 | 5×11 | 0.20 | 84 | ELLA100E□□330ME11D | 33 | | 5×11 | 0.12 | 105 | ELLA350E□□330ME11D |
| | 47 | 5×11 | 0.20 | 100 | ELLA100E□□470ME11D | 47 | | 6.3×11 | 0.12 | 145 | ELLA350E□□470MF11D |
| | 100 | 5×11 | 0.20 | 145 | ELLA100E□□101ME11D | 100 | | 8×11.5 | 0.12 | 240 | ELLA350E□□101MHB5D |
| | 220 | 6.3×11 | 0.20 | 250 | ELLA100E□□221MF11D | 220 | | 10×12.5 | 0.12 | 420 | ELLA350E□□221MJC5S |
| | 330 | 8×11.5 | 0.20 | 350 | ELLA100E□□331MHB5D | 330 | | 10×16 | 0.12 | 570 | ELLA350E□□331MJ16S |
| | 470 | 8×11.5 | 0.20 | 415 | ELLA100E□□471MHB5D | 470 | | 10×20 | 0.12 | 740 | ELLA350E□□471MJ20S |
| | 1,000 | 10×16 | 0.20 | 790 | ELLA100E□□102MJ16S | 1,000 | | 12.5×25 | 0.12 | 1,300 | ELLA350E□□102MK25S |
| | 2,200 | 12.5×20 | 0.22 | 1,240 | ELLA100E□□222MK20S | 2,200 | | 16×31.5 | 0.14 | 1,890 | ELLA350E□□222MLN3S |
| | 3,300 | 12.5×25 | 0.24 | 1,590 | ELLA100E□□332MK25S | 3,300 | | 18×35.5 | 0.16 | 2,340 | ELLA350E□□332MMP1S |
| 4,700 | 16×25 | 0.26 | 1,980 | ELLA100E□□472ML25S | 4,700 | 18×40 | | 0.18 | 2,690 | ELLA350E□□472MM40S | |
| 6,800 | 16×31.5 | 0.30 | 2,390 | ELLA100E□□682MLN3S | 50 | 0.10 | | 5×11 | 0.10 | 1.3 | ELLA500E□□R10ME11D |
| 10,000 | 18×35.5 | 0.38 | 2,840 | ELLA100E□□103MMP1S | | 0.22 | | 5×11 | 0.10 | 2.9 | ELLA500E□□R22ME11D |
| 16 | 10 | 5×11 | 0.16 | 44 | | ELLA160E□□100ME11D | | 0.33 | 5×11 | 0.10 | 4.4 |
| | 22 | 5×11 | 0.16 | 75 | | ELLA160E□□220ME11D | 0.47 | 5×11 | 0.10 | 11 | ELLA500E□□R47ME11D |
| | 33 | 5×11 | 0.16 | 90 | | ELLA160E□□330ME11D | 1.0 | 5×11 | 0.10 | 17 | ELLA500E□□R10ME11D |
| | 47 | 5×11 | 0.16 | 110 | | ELLA160E□□470ME11D | 2.2 | 5×11 | 0.10 | 25 | ELLA500E□□R22ME11D |
| | 100 | 6.3×11 | 0.16 | 180 | | ELLA160E□□101MF11D | 3.3 | 5×11 | 0.10 | 35 | ELLA500E□□R33ME11D |
| | 220 | 8×11.5 | 0.16 | 300 | | ELLA160E□□221MHB5D | 4.7 | 5×11 | 0.10 | 42 | ELLA500E□□R47ME11D |
| | 330 | 8×11.5 | 0.16 | 370 | | ELLA160E□□331MHB5D | 10 | 5×11 | 0.10 | 65 | ELLA500E□□100ME11D |
| | 470 | 10×12.5 | 0.16 | 520 | | ELLA160E□□471MJC5S | 22 | 5×11 | 0.10 | 95 | ELLA500E□□220ME11D |
| | 1,000 | 10×20 | 0.16 | 910 | | ELLA160E□□102MJ20S | 33 | 6.3×11 | 0.10 | 125 | ELLA500E□□330MF11D |
| | 2,200 | 12.5×25 | 0.18 | 1,420 | | ELLA160E□□222MK25S | 47 | 6.3×11 | 0.10 | 150 | ELLA500E□□470MF11D |
| | 3,300 | 16×25 | 0.20 | 1,840 | | ELLA160E□□332ML25S | 100 | 8×11.5 | 0.10 | 255 | ELLA500E□□101MHB5D |
| | 4,700 | 16×31.5 | 0.22 | 2,260 | | ELLA160E□□472MLN3S | 220 | 10×16 | 0.10 | 490 | ELLA500E□□221MJ16S |
| | 6,800 | 18×35.5 | 0.26 | 2,690 | | ELLA160E□□682MMP1S | 330 | 10×20 | 0.10 | 650 | ELLA500E□□331MJ20S |
| | 10,000 | 18×40 | 0.34 | 2,920 | | ELLA160E□□103MM40S | 470 | 12.5×20 | 0.10 | 860 | ELLA500E□□471MK20S |
| 25 | 4.7 | 5×11 | 0.14 | 31 | ELLA250E□□4R7ME11D | 1,000 | 16×25 | 0.10 | 1,530 | ELLA500E□□102ML25S | |
| | 10 | 5×11 | 0.14 | 54 | ELLA250E□□100ME11D | 2,200 | 18×35.5 | 0.12 | 2,160 | ELLA500E□□222MMP1S | |
| | 22 | 5×11 | 0.14 | 80 | ELLA250E□□220ME11D | | | | | | |

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