

LLG

Snap-in Terminal Type, 85°C Smaller-Sized



Smaller

- One rank smaller case sized than LLS.
- Suited for equipment down sizing.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).



Specifications

| Item | Performance Characteristics | | | | |
|-------------------------------|--|-----------------|-----------|---------------------------------------|---|
| Category Temperature Range | - 40 to + 85°C (160 to 250V), - 25 to + 85°C (400 to 450V) | | | | |
| Rated Voltage Range | 160 to 450V | | | | |
| Rated Capacitance Range | 120 to 3900μF | | | | |
| Capacitance Tolerance | ± 20% at 120Hz, 20°C | | | | |
| Leakage Current | $I \leq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage) [C : Rated Capacitance (μF) V : Voltage (V)] | | | | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 160 to 400 | 450 | Measurement frequency : 120Hz at 20°C | |
| | tan δ (MAX.) | 0.15 | 0.20 | | |
| Stability at Low Temperature | Rated voltage(V) | 160 to 250 | 400 • 450 | Measurement frequency : 120Hz | |
| | Impedance ratio ZT/Z20 (MAX.) | Z - 25°C/Z+20°C | 4 | | 8 |
| Endurance | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 2000 hours at 85°C, the peak voltage shall not exceed the rated voltage. | | | Capacitance change | Within ±20% of the initial capacitance value |
| | | | | tan δ | 200% or less than the initial specified value |
| | | | | Leakage current | Less than or equal to the initial specified value |
| Shelf Life | After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the characteristic requirements listed at right. | | | Capacitance change | Within ±20% of the initial capacitance value |
| | | | | tan δ | 200% or less than the initial specified value |
| | | | | Leakage current | Less than or equal to the initial specified value |
| Marking | Printed with white color letter on black sleeve. | | | | |

Drawing



(PC board hole dimensions) (Terminal dimensions)

* The other terminal is also available upon request.
Please refer to page 346 for schematic of dimensions.

Type numbering system (Example : 400V 180μF)



Minimum order quantity : 50pcs.

● Dimension table in next page.



■ Dimensions

| 160V (2C) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 560 | 22 × 25 | 2250 | 0.89 | LLG2C561MELZ25 |
| 680 | 22 × 30 | 2500 | 0.98 | LLG2C681MELZ30 |
| 820 | 22 × 35 | 2750 | 1.08 | LLG2C821MELZ35 |
| | 25 × 25 | 2520 | 1.08 | LLG2C821MELA25 |
| 1000 | 22 × 40 | 3000 | 1.20 | LLG2C102MELZ40 |
| | 25 × 30 | 3000 | 1.20 | LLG2C102MELA30 |
| 1200 | 22 × 40 | 3050 | 1.31 | LLG2C122MELZ40 |
| | 25 × 35 | 3250 | 1.31 | LLG2C122MELA35 |
| | 30 × 25 | 3050 | 1.31 | LLG2C122MELB25 |
| 1500 | 22 × 50 | 3400 | 1.46 | LLG2C152MELZ50 |
| | 25 × 40 | 3400 | 1.46 | LLG2C152MELA40 |
| | 30 × 30 | 3400 | 1.46 | LLG2C152MELB30 |
| | 35 × 25 | 3400 | 1.46 | LLG2C152MELC25 |
| 1800 | 25 × 45 | 3800 | 1.60 | LLG2C182MELA45 |
| | 30 × 35 | 4200 | 1.60 | LLG2C182MELB35 |
| | 35 × 30 | 4100 | 1.60 | LLG2C182MELC30 |
| 2200 | 30 × 40 | 4450 | 1.77 | LLG2C222MELB40 |
| | 35 × 35 | 4780 | 1.77 | LLG2C222MELC35 |
| 2700 | 30 × 45 | 4900 | 1.97 | LLG2C272MELB45 |
| | 35 × 40 | 5450 | 1.97 | LLG2C272MELC40 |
| 3300 | 35 × 45 | 5750 | 2.17 | LLG2C332MELC45 |
| 3900 | 35 × 50 | 6000 | 2.36 | LLG2C392MELC50 |

| 180V (2Z) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 560 | 22 × 25 | 1800 | 0.95 | LLG2Z561MELZ25 |
| 680 | 22 × 30 | 1900 | 1.04 | LLG2Z681MELZ30 |
| | 25 × 25 | 2100 | 1.04 | LLG2Z681MELA25 |
| 820 | 22 × 35 | 2450 | 1.15 | LLG2Z821MELZ35 |
| | 25 × 30 | 2400 | 1.15 | LLG2Z821MELA30 |
| 1000 | 22 × 40 | 2800 | 1.27 | LLG2Z102MELZ40 |
| | 25 × 35 | 2700 | 1.27 | LLG2Z102MELA35 |
| | 30 × 25 | 2650 | 1.27 | LLG2Z102MELB25 |
| 1200 | 22 × 45 | 2900 | 1.39 | LLG2Z122MELZ45 |
| | 25 × 40 | 3000 | 1.39 | LLG2Z122MELA40 |
| | 30 × 30 | 3000 | 1.39 | LLG2Z122MELB30 |
| | 35 × 25 | 3000 | 1.39 | LLG2Z122MELC25 |
| 1500 | 25 × 45 | 3300 | 1.55 | LLG2Z152MELA45 |
| | 30 × 35 | 3300 | 1.55 | LLG2Z152MELB35 |
| | 35 × 30 | 3300 | 1.55 | LLG2Z152MELC30 |
| 1800 | 25 × 50 | 3600 | 1.70 | LLG2Z182MELA50 |
| | 30 × 40 | 3600 | 1.70 | LLG2Z182MELB40 |
| | 35 × 30 | 3400 | 1.70 | LLG2Z182MELC30 |
| 2200 | 30 × 45 | 4300 | 1.88 | LLG2Z222MELB45 |
| | 35 × 35 | 4300 | 1.88 | LLG2Z222MELC35 |
| 2700 | 30 × 50 | 4700 | 2.09 | LLG2Z272MELB50 |
| | 35 × 40 | 4700 | 2.09 | LLG2Z272MELC40 |
| 3300 | 35 × 45 | 5000 | 2.31 | LLG2Z332MELC45 |

| 200V (2D) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 470 | 22 × 25 | 1430 | 0.91 | LLG2D471MELZ25 |
| 560 | 22 × 30 | 2070 | 1.00 | LLG2D561MELZ30 |
| | 25 × 25 | 2070 | 1.00 | LLG2D561MELA25 |
| 680 | 22 × 35 | 2280 | 1.10 | LLG2D681MELZ35 |
| | 25 × 30 | 2280 | 1.10 | LLG2D681MELA30 |
| 820 | 22 × 40 | 2490 | 1.21 | LLG2D821MELZ40 |
| | 25 × 30 | 2340 | 1.21 | LLG2D821MELA30 |
| 1000 | 22 × 45 | 2550 | 1.34 | LLG2D102MELZ45 |
| | 25 × 35 | 2550 | 1.34 | LLG2D102MELA35 |
| | 30 × 30 | 2760 | 1.34 | LLG2D102MELB30 |
| 1200 | 22 × 50 | 2810 | 1.46 | LLG2D122MELZ50 |
| | 25 × 40 | 2810 | 1.46 | LLG2D122MELA40 |
| | 30 × 30 | 2810 | 1.46 | LLG2D122MELB30 |
| | 35 × 25 | 2810 | 1.46 | LLG2D122MELC25 |
| 1500 | 25 × 50 | 3290 | 1.64 | LLG2D152MELA50 |
| | 30 × 35 | 2980 | 1.64 | LLG2D152MELB35 |
| | 35 × 30 | 3290 | 1.64 | LLG2D152MELC30 |
| 1800 | 30 × 40 | 3320 | 1.80 | LLG2D182MELB40 |
| | 35 × 35 | 3670 | 1.80 | LLG2D182MELC35 |
| 2200 | 30 × 50 | 4180 | 1.98 | LLG2D222MELB50 |
| | 35 × 40 | 4180 | 1.98 | LLG2D222MELC40 |
| 2700 | 35 × 45 | 4340 | 2.20 | LLG2D272MELC45 |
| 3300 | 35 × 50 | 4420 | 2.55 | LLG2D332MELC50 |

| 250V (2E) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 330 | 22 × 25 | 1300 | 0.86 | LLG2E331MELZ25 |
| 390 | 22 × 30 | 1910 | 0.93 | LLG2E391MELZ30 |
| 470 | 25 × 25 | 2000 | 1.02 | LLG2E471MELA25 |
| 560 | 22 × 40 | 2250 | 1.12 | LLG2E561MELZ40 |
| | 25 × 30 | 2250 | 1.12 | LLG2E561MELA30 |
| 680 | 22 × 45 | 2500 | 1.23 | LLG2E681MELZ45 |
| | 25 × 35 | 2500 | 1.23 | LLG2E681MELA35 |
| | 30 × 25 | 2500 | 1.23 | LLG2E681MELB25 |
| 820 | 25 × 40 | 2770 | 1.35 | LLG2E821MELA40 |
| | 30 × 30 | 2770 | 1.35 | LLG2E821MELB30 |
| | 35 × 25 | 2770 | 1.35 | LLG2E821MELC25 |
| 1000 | 25 × 50 | 3320 | 1.50 | LLG2E102MELA50 |
| | 30 × 35 | 3320 | 1.50 | LLG2E102MELB35 |
| | 35 × 30 | 3320 | 1.50 | LLG2E102MELC30 |
| 1200 | 30 × 40 | 3840 | 1.64 | LLG2E122MELB40 |
| | 35 × 35 | 3840 | 1.64 | LLG2E122MELC35 |
| 1500 | 30 × 50 | 4250 | 1.83 | LLG2E152MELB50 |
| | 35 × 40 | 4250 | 1.83 | LLG2E152MELC40 |
| 1800 | 35 × 45 | 4550 | 2.01 | LLG2E182MELC45 |
| 2200 | 35 × 50 | 4750 | 2.22 | LLG2E222MELC50 |

Rated ripple current (mArms) at 85°C 120Hz



■ Dimensions

| 400V (2G) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 150 | 22 × 25 | 1030 | 0.73 | LLG2G151MELZ25 |
| 180 | 22 × 30 | 1160 | 0.80 | LLG2G181MELZ30 |
| | 25 × 25 | 1160 | 0.80 | LLG2G181MELA25 |
| 220 | 22 × 35 | 1400 | 0.88 | LLG2G221MELZ35 |
| | 25 × 30 | 1400 | 0.88 | LLG2G221MELA30 |
| 270 | 22 × 40 | 1500 | 0.98 | LLG2G271MELZ40 |
| | 25 × 35 | 1500 | 0.98 | LLG2G271MELA35 |
| 330 | 22 × 45 | 1700 | 1.08 | LLG2G331MELZ45 |
| | 25 × 35 | 1700 | 1.08 | LLG2G331MELA35 |
| | 30 × 30 | 1700 | 1.08 | LLG2G331MELB30 |
| 390 | 22 × 50 | 1900 | 1.18 | LLG2G391MELZ50 |
| | 25 × 40 | 1900 | 1.18 | LLG2G391MELA40 |
| | 30 × 30 | 1900 | 1.18 | LLG2G391MELB30 |
| | 35 × 25 | 1900 | 1.18 | LLG2G391MELC25 |
| 470 | 25 × 50 | 2130 | 1.30 | LLG2G471MELA50 |
| | 30 × 35 | 2130 | 1.30 | LLG2G471MELB35 |
| | 35 × 30 | 2130 | 1.30 | LLG2G471MELC30 |
| 560 | 30 × 40 | 2390 | 1.41 | LLG2G561MELB40 |
| | 35 × 35 | 2390 | 1.41 | LLG2G561MELC35 |
| 680 | 30 × 45 | 2690 | 1.56 | LLG2G681MELB45 |
| | 35 × 35 | 2690 | 1.56 | LLG2G681MELC35 |
| 820 | 35 × 40 | 2960 | 1.71 | LLG2G821MELC40 |
| 1000 | 35 × 50 | 3300 | 1.89 | LLG2G102MELC50 |

| 450V (2W) | | | | |
|-----------|-----------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (mArms) | Leakage Current (mA) | Code |
| 120 | 22 × 25 | 930 | 0.69 | LLG2W121MELZ25 |
| 150 | 22 × 30 | 1040 | 0.77 | LLG2W151MELZ30 |
| | 25 × 25 | 1040 | 0.77 | LLG2W151MELA25 |
| 180 | 22 × 35 | 1300 | 0.85 | LLG2W181MELZ35 |
| | 25 × 30 | 1300 | 0.85 | LLG2W181MELA30 |
| 220 | 22 × 40 | 1400 | 0.94 | LLG2W221MELZ40 |
| | 25 × 35 | 1500 | 0.94 | LLG2W221MELA35 |
| | 30 × 25 | 1400 | 0.94 | LLG2W221MELB25 |
| 270 | 22 × 45 | 1660 | 1.04 | LLG2W271MELZ45 |
| | 25 × 40 | 1800 | 1.04 | LLG2W271MELA40 |
| | 30 × 30 | 1800 | 1.04 | LLG2W271MELB30 |
| 330 | 25 × 45 | 1950 | 1.15 | LLG2W331MELA45 |
| | 30 × 35 | 1950 | 1.15 | LLG2W331MELB35 |
| | 35 × 30 | 1950 | 1.15 | LLG2W331MELC30 |
| 390 | 25 × 50 | 2100 | 1.25 | LLG2W391MELA50 |
| | 30 × 35 | 2100 | 1.25 | LLG2W391MELB35 |
| | 35 × 30 | 2100 | 1.25 | LLG2W391MELC30 |
| 470 | 30 × 40 | 2320 | 1.37 | LLG2W471MELB40 |
| | 35 × 35 | 2320 | 1.37 | LLG2W471MELC35 |
| 560 | 30 × 50 | 2660 | 1.50 | LLG2W561MELB50 |
| | 35 × 40 | 2660 | 1.50 | LLG2W561MELC40 |
| 680 | 35 × 45 | 2820 | 1.65 | LLG2W681MELC45 |
| 820 | 35 × 50 | 3000 | 1.82 | LLG2W821MELC50 |

Rated ripple current (mArms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

| Frequency (Hz) | | 50 | 60 | 120 | 300 | 1k | 10k | 50k or more |
|----------------|-------------|------|------|------|------|------|------|-------------|
| coeff | 160 to 250V | 0.81 | 0.85 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50 |
| | 400 • 450V | 0.77 | 0.82 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |