

LP Series

- Large size for PCB board mounting hole.
- Load life 5,000 hours at 85°C.

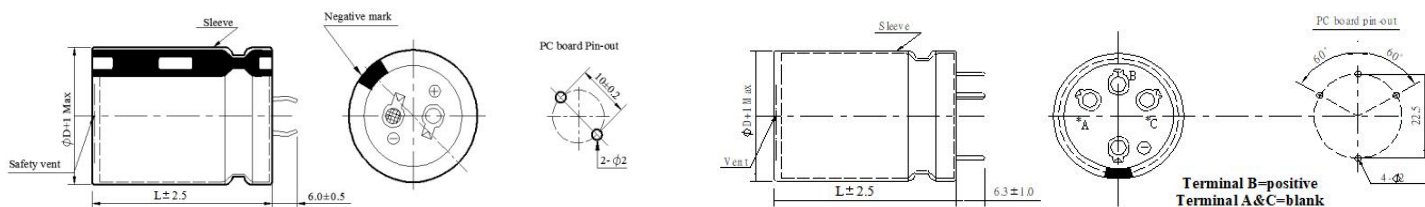
◆ **SPECIFICATIONS**

| Item | Performance Characteristics | | | | | |
|--|--|-----------|------|----------|-------------------------------|-------------------------------|
| Category Temperature Range | -25 ~ +85°C | | | | | |
| Working Voltage Range | 200~500Vdc | | | | | |
| Capacitance Range | 56~2200 μF | | | | | |
| Capacitance Tolerance | ±20% (at 20°C and 120Hz) | | | | | |
| Dissipation Factor (tan δ) (at 20°C, 120Hz) | Rated Voltage (V) | 200 ~ 450 | 500 | | | |
| | tan δ (Max) | 0.15 | 0.20 | | | |
| The above values should be increased by 0.02 for every additional 1000μF | | | | | | |
| Leakage Current | $I \leq 3 \sqrt{CV}$ I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V) Apply rated voltage the rated voltage for 5 minutes. | | | | | |
| Low Temperature Characteristics Impedance Ratio(MAX) | Rated Voltage (V) | 200 ~250 | 400 | 420 ~450 | 500 | (at 120Hz) |
| | Z(-25°C)/Z(+20°C) | 4 | 4 | 8 | 8 | |
| Endurance | 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 for 5,000 hours at 85°C. | | | | | |
| | Capacitance change | | | | ≒ ±20% of the initial value | |
| | Dissipation factor(tan δ) | | | | ≒ 200% of the specified value | |
| Shelf Life | The following requirements shall be satisfied when the capacitor are restored to 20°C after the rated voltage applied for 1,000 hours at 85°C without voltage applied. | | | | | |
| | Capacitance change | | | | ≒ ±20% of the initial value | |
| | Dissipation factor(tan δ) | | | | ≒ 200% of the specified value | |
| Others | Leakage current | | | | | ≒ 200% of the specified value |
| | Conforms to JIS-C-5101-4 (1998) and IEC 60384-4 | | | | | |

◆ **DIMENSIONS(mm)**

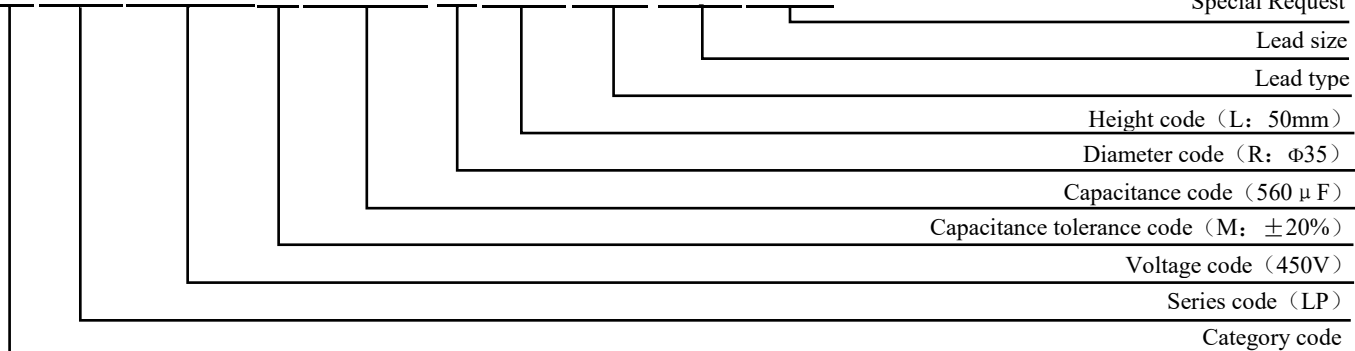
Terminal Code :S2

Terminal Code :S4



◆ **PART NUMBER SYSTEM(Example : 450V 560μF)**

E L P 4 5 0 M 5 6 1 R 5 0 S 2 6 0 A A



LP Series

◆ Case size & Permissible rated ripple current: (mA rms) at 85°C / 120Hz

| uF | Vdc | | 200 | | | | | | | | uF | Vdc | | 220 | | | | | | | |
|------|-------|------|-------|------|-------|------|-------|------|------|------|-------|------|-------|------|-------|------|-------|------|----|------|----|
| | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | | | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | |
| | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 270 | | | | | | | | | | 220 | | | | | | | | | | | |
| 330 | 22×25 | 1450 | | | | | | | | 270 | 22×25 | 1390 | | | | | | | | | |
| 390 | 22×30 | 1500 | 25×25 | 1500 | | | | | | 330 | 22×30 | 1530 | 25×25 | 1530 | | | | | | | |
| 470 | 22×35 | 1760 | 25×30 | 1760 | | | | | | 390 | 22×35 | 1800 | 25×30 | 1800 | | | | | | | |
| 560 | 22×40 | 2050 | 25×35 | 2050 | 30×25 | 2050 | | | | 470 | 22×40 | 1910 | 25×35 | 1910 | 30×25 | 1910 | | | | | |
| 680 | 22×45 | 2500 | 25×40 | 2500 | 30×30 | 2500 | | | | 560 | 22×45 | 2200 | 25×40 | 2200 | 30×30 | 2200 | | | | | |
| 820 | 22×50 | 2740 | 25×45 | 2740 | 30×35 | 2740 | 35×25 | 2740 | | 680 | 22×50 | 2530 | 25×45 | 2530 | 30×35 | 2530 | 35×25 | 2530 | | | |
| 1000 | | | 25×50 | 2985 | 30×40 | 2985 | 35×30 | 2985 | | 820 | | | 25×50 | 2810 | 30×40 | 2810 | 35×30 | 2810 | | | |
| 1200 | | | | | 30×45 | 3300 | 35×35 | 3300 | | 1000 | | | | | 30×45 | 3050 | 35×35 | 3050 | | | |
| 1500 | | | | | 30×50 | 3770 | 35×40 | 3770 | | 1200 | | | | | 30×50 | 3375 | 35×40 | 3375 | | | |
| 1800 | | | | | | | 35×45 | 3870 | | 1500 | | | | | | | 35×45 | 3830 | | | |
| 2200 | | | | | | | 35×50 | 4150 | | 1800 | | | | | | | 35×50 | 3920 | | | |

| uF | Vdc | | 250 | | | | | | | | uF | Vdc | | 400 | | | | | | | |
|------|-------|------|-------|------|-------|------|-------|------|------|-----|-------|------|-------|------|-------|------|-------|------|----|------|----|
| | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | | | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | |
| | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 180 | | | | | | | | | | 82 | 22×25 | 770 | | | | | | | | | |
| 220 | 22×25 | 1300 | | | | | | | | 100 | 22×30 | 920 | | | | | | | | | |
| 270 | 22×30 | 1450 | 25×25 | 1450 | | | | | | 120 | 22×35 | 1090 | 25×25 | 1090 | | | | | | | |
| 330 | 22×35 | 1610 | 25×30 | 1610 | | | | | | 150 | 22×40 | 1210 | 25×30 | 1210 | | | | | | | |
| 390 | 22×40 | 1890 | 25×35 | 1890 | 30×25 | 1890 | | | | 180 | 22×45 | 1430 | 25×35 | 1430 | 30×25 | 1430 | | | | | |
| 470 | 22×45 | 2050 | 25×35 | 2050 | 30×30 | 2050 | | | | 220 | 22×50 | 1650 | 25×40 | 1650 | 30×30 | 1650 | | | | | |
| 560 | 22×50 | 2270 | 25×40 | 2270 | 30×35 | 2270 | 35×25 | 2270 | | 270 | | | 25×45 | 1745 | 30×35 | 1745 | 35×25 | 1745 | | | |
| 680 | | | 25×50 | 2545 | 30×40 | 2545 | 35×30 | 2545 | | 330 | | | 25×50 | 1940 | 30×40 | 1940 | 35×30 | 1940 | | | |
| 820 | | | | | 30×45 | 2950 | 35×35 | 2950 | | 390 | | | | | 30×45 | 2180 | 35×35 | 2180 | | | |
| 1000 | | | | | 30×50 | 3200 | 35×40 | 3200 | | 470 | | | | | 30×50 | 2460 | 35×40 | 2460 | | | |
| 1200 | | | | | | | 35×45 | 3450 | | 560 | | | | | | | 35×45 | 2630 | | | |
| 1500 | | | | | | | 35×50 | 4000 | | 680 | | | | | | | 35×50 | 3060 | | | |

| uF | Vdc | | 420 | | | | | | | | uF | Vdc | | 450 | | | | | | | |
|-----|-------|------|-------|------|-------|------|-------|------|------|-----|-------|------|-------|------|-------|------|-------|------|----|------|----|
| | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | | | ΦD | RC | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | |
| | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 82 | 22×25 | 775 | | | | | | | | 56 | 22×25 | 495 | | | | | | | | | |
| 100 | 22×30 | 965 | | | | | | | | 68 | 22×30 | 770 | | | | | | | | | |
| 120 | 22×35 | 1095 | 25×25 | 1095 | | | | | | 82 | 22×35 | 810 | 25×25 | 810 | | | | | | | |
| 150 | 22×40 | 1260 | 25×30 | 1260 | 30×25 | 1260 | | | | 100 | 22×40 | 980 | 25×30 | 980 | | | | | | | |
| 180 | 22×45 | 1430 | 25×35 | 1430 | 30×30 | 1430 | | | | 120 | 22×45 | 1120 | 25×35 | 1120 | 30×25 | 1120 | | | | | |
| 220 | 22×50 | 1680 | 25×40 | 1680 | 30×35 | 1680 | 35×25 | 1680 | | 150 | 22×50 | 1330 | 25×40 | 1330 | 30×30 | 1330 | 35×25 | 1330 | | | |
| 270 | | | 25×45 | 1810 | 30×40 | 1810 | 35×30 | 1810 | | 180 | | | 25×45 | 1500 | 30×35 | 1500 | 35×30 | 1500 | | | |
| 330 | | | 25×50 | 1950 | 30×45 | 1950 | 35×35 | 1950 | | 220 | | | 25×50 | 1740 | 30×40 | 1740 | 35×35 | 1740 | | | |
| 390 | | | | | 30×50 | 2250 | 35×40 | 2250 | | 270 | | | | | 30×45 | 1905 | 35×40 | 1905 | | | |
| 470 | | | | | | | 35×45 | 2520 | | 330 | | | | | 30×50 | 1995 | 35×45 | 1995 | | | |
| 560 | | | | | | | 35×50 | 2700 | | 390 | | | | | | | 35×50 | 2310 | | | |

LP Series

◆ **Case size & Permissible rated ripple current: (mA rms) at 85°C / 120Hz**

| Vdc uF | 500 | | | | | | | |
|-----------|-------|------|-------|------|-------|------|-------|------|
| | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | |
| | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 56 | 22×25 | 595 | | | | | | |
| 68 | 22×30 | 630 | | | | | | |
| 82 | 22×35 | 805 | 25×25 | 805 | | | | |
| 100 | 22×40 | 900 | 25×30 | 900 | | | | |
| 120 | 22×45 | 985 | 25×35 | 985 | 30×25 | 985 | | |
| 150 | 22×50 | 1350 | 25×40 | 1350 | 30×30 | 1350 | 35×25 | 1350 |
| 180 | | | 25×45 | 1400 | 30×35 | 1400 | 35×30 | 1400 |
| 220 | | | 25×50 | 1720 | 30×40 | 1720 | 35×35 | 1720 |
| 270 | | | | | 30×45 | 1865 | 35×40 | 1865 |
| 330 | | | | | 30×50 | 2030 | 35×45 | 2030 |
| 390 | | | | | | | 35×50 | 2225 |

◆ **RIPPLE CURRENT MULTIPLIERS**

Frequency Multipliers

| Vdc | Frequency (Hz) | | | | |
|-----------|----------------|------|------|------|------|
| | 50/60 | 120 | 1K | 10K | 100K |
| 200 ~ 250 | 0.80 | 1.00 | 1.15 | 1.17 | 1.20 |
| 400 ~ 500 | 0.90 | 1.00 | 1.10 | 1.12 | 1.15 |