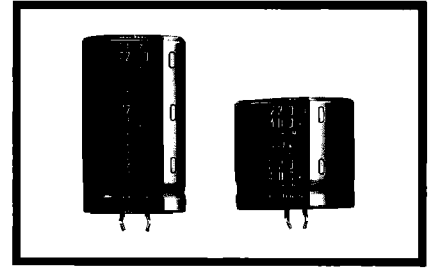
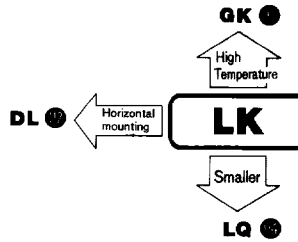


LK Snap-in Terminal Type, Standard series



Approved by Reliability Center for Electronic Component, Japan-Certification No. RCJ-03-25C

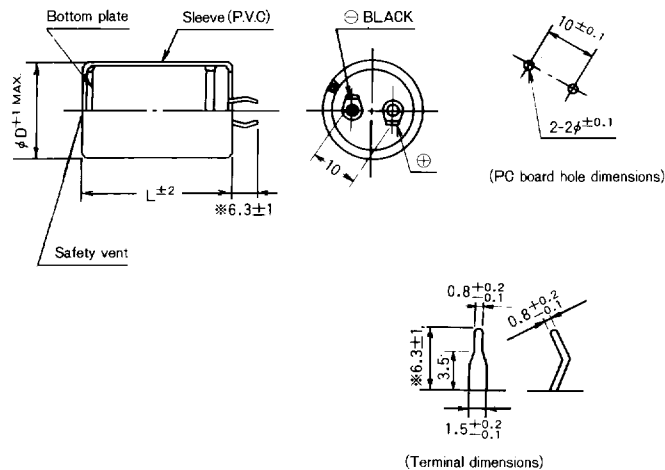
- Standard snap-in terminal series.
- Extended capacitance ranges based on the numerical values in E12 series under JIS.



Specifications

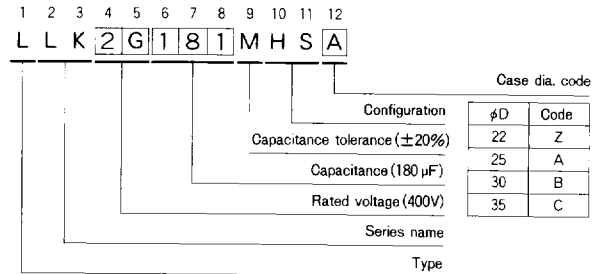
| Item | Performance Characteristics | | | | | | | | | | | | |
|------------------------------|---|---|-----|--------|-----|------|---------|-----|------|---------|------|------|------|
| Operating Temperature Range | -40~+85°C (16~250V) , | -25~+85°C (400・450V) | | | | | | | | | | | |
| Voltage Range | 16~450V | | | | | | | | | | | | |
| Capacitance Range | 47~33000μF | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (120Hz, 20°C) | | | | | | | | | | | | |
| Leakage Current | I ≤ 3√CV (μA) (After 5 minutes' application of rated voltage) (C: Capacitance (μF), V: Voltage (V)) | | | | | | | | | | | | |
| tan δ | Measurement frequency: 120Hz, Temperature: 20°C | | | | | | | | | | | | |
| | Rated voltage (V) | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160 | 200 | 250 | 400 | 450 |
| | tan δ (MAX.) | 0.5 | 0.4 | 0.35 | 0.3 | 0.25 | 0.2 | 0.2 | 0.15 | 0.10 | 0.10 | 0.20 | 0.20 |
| Stability at Low Temperature | Measurement frequency: 120Hz | | | | | | | | | | | | |
| | Rated voltage (V) | | | 16~100 | | | 160~250 | | | 400・450 | | | |
| | Impedance ratio | Z-25°C / Z+20°C | | 4 | | | 3 | | | 8 | | | |
| | ZT/Z20 (MAX.) | Z-40°C / Z+20°C | | 15 | | | 12 | | | — | | | |
| Load Life | After an application of rated voltage (maximum value of DC voltage overlapped by an allowable ripple current) for 2000 hours at 85°C, capacitors meet the characteristics requirements listed at right. | | | | | | | | | | | | |
| | Leakage current | Initial specified value or less | | | | | | | | | | | |
| | Capacitance change | Within ±20% of initial value | | | | | | | | | | | |
| | tan δ | 200% or less of initial specified value | | | | | | | | | | | |
| Shelf Life | After leaving capacitors under no load at 85°C for 1000 hours, they meet the requirements listed at right. | | | | | | | | | | | | |
| | Leakage current | Initial specified value or less | | | | | | | | | | | |
| | Capacitance change | Within ±15% of initial value | | | | | | | | | | | |
| | tan δ | 150% or less of initial specified value | | | | | | | | | | | |
| Marking | Printed with white color letter on black sleeve. | | | | | | | | | | | | |
| Applicable Standards | JIS C-5141 and JIS C-5102. | | | | | | | | | | | | |

Drawing



※ Shorter terminal (4.0±0.5) is also available upon request.

Type numbering system (Example: 400V 180μF)



ALUMINUM ELECTROLYTIC CAPACITORS

LK series

■ Dimensions

DXL (mm)

| Cap. (µF) | V (Code) | | 16 (1C) | | | | 25 (1E) | | | | 35 (1V) | | | | 50 (1H) | | | |
|-----------|----------|-------|---------|-------|-------|----|---------|-------|-------|-------|---------|-------|-------|-------|---------|-------|-------|----|
| | Code | #D | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 |
| 2200 | 222 | | | | | | | | | | | | | 22×25 | | | | |
| | | | | | | | | | | | | | | 1.85 | | | | |
| 2700 | 272 | | | | | | | | | | | | | 22×30 | | | | |
| | | | | | | | | | | | | | | 2.10 | | | | |
| 3300 | 332 | | | | | | | | | 22×25 | | | | 22×35 | 25×25 | | | |
| | | | | | | | | | | 2.20 | | | | 2.35 | 2.35 | | | |
| 3900 | 392 | | | | | | | | | 22×30 | | | | 22×35 | 25×30 | | | |
| | | | | | | | | | | 2.25 | | | | 2.50 | 2.50 | | | |
| 4700 | 472 | | | | | | 22×25 | | | 22×30 | 25×25 | | | 22×40 | 25×35 | 30×25 | | |
| | | | | | | | 1.90 | | | 2.40 | 2.40 | | | 2.80 | 2.80 | 2.80 | | |
| 5600 | 562 | | | | | | 22×30 | | | 22×35 | 25×30 | | | 22×45 | 25×40 | 30×30 | | |
| | | | | | | | 2.25 | | | 2.75 | 2.75 | | | 3.30 | 3.30 | 3.30 | | |
| 6800 | 682 | 22×25 | | | | | 22×35 | 25×25 | | 22×40 | 25×35 | 30×25 | | 22×50 | 25×40 | 30×35 | | |
| | | 2.50 | | | | | 2.55 | 2.55 | | 2.95 | 2.95 | 2.95 | | 3.80 | 3.80 | 3.80 | | |
| 8200 | 822 | 22×30 | | | | | 22×40 | 25×30 | 30×25 | 22×45 | 25×40 | 30×30 | | 25×50 | 30×40 | 35×30 | | |
| | | 2.65 | | | | | 3.10 | 3.10 | 3.20 | 3.45 | 3.50 | 3.45 | | 4.30 | 4.35 | 4.25 | | |
| 10000 | 103 | 22×30 | 25×25 | | | | 22×45 | 25×35 | 30×30 | | 25×45 | 30×35 | | | | 30×45 | 35×35 | |
| | | 2.85 | 2.85 | | | | 3.40 | 3.40 | 3.40 | | 4.00 | 4.00 | | | | 4.75 | 4.70 | |
| 12000 | 123 | 22×35 | 25×30 | | | | 22×50 | 25×40 | 30×30 | | 25×50 | 30×40 | 35×30 | | | 30×50 | 35×40 | |
| | | 3.25 | 3.25 | | | | 4.00 | 3.90 | 3.85 | | 4.45 | 4.50 | 4.40 | | | 5.30 | 5.25 | |
| 15000 | 153 | 22×40 | 25×35 | 30×25 | | | 25×45 | 30×35 | 35×30 | | 30×45 | 35×35 | | | | | 35×45 | |
| | | 3.70 | 3.75 | 3.65 | | | 3.75 | 4.45 | 4.45 | | 5.00 | 5.00 | | | | | 5.90 | |
| 18000 | 183 | 22×50 | 25×40 | 30×30 | | | | 30×40 | 35×35 | | 30×50 | 35×40 | | | | | 35×50 | |
| | | 4.35 | 4.25 | 4.20 | | | | 5.00 | 5.10 | | 5.55 | 5.50 | | | | | 6.50 | |
| 22000 | 223 | | 25×45 | 30×35 | 35×30 | | | 30×50 | 35×40 | | | | | 35×50 | | | | |
| | | | 4.80 | 4.80 | 4.80 | | | 5.80 | 5.75 | | | | | 6.25 | | | | |
| 27000 | 273 | | | 30×40 | 35×30 | | | | 35×50 | | | | | | | | | |
| | | | | 5.20 | 5.15 | | | | 6.60 | | | | | | | | | |
| 33000 | 333 | | | 30×45 | 35×40 | | | | | | | | | | | | | |
| | | | | 5.80 | 5.90 | | | | | | | | | | | | | |

| Cap. (µF) | V (Code) | | 63 (1J) | | | | 80 (1K) | | | | 100 (2A) | | | |
|-----------|----------|-------|---------|-------|-------|----|---------|-------|-------|-------|----------|-------|-------|-------|
| | Code | #D | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 |
| 820 | 821 | | | | | | | | | | 22×25 | | | |
| | | | | | | | | | | | 1.20 | | | |
| 1000 | 102 | | | | | | | | | | 22×30 | 25×25 | | |
| | | | | | | | | | | | 1.50 | 1.50 | | |
| 1200 | 122 | | | | | | 22×25 | | | | 22×35 | 25×30 | | |
| | | | | | | | 1.30 | | | | 1.75 | 1.75 | | |
| 1500 | 152 | | | | | | 22×30 | 25×25 | | | 22×40 | 25×30 | 30×25 | |
| | | | | | | | 1.80 | 1.80 | | | 1.95 | 1.90 | 1.95 | |
| 1800 | 182 | 22×25 | | | | | 22×35 | 25×30 | | | 22×45 | 25×35 | 30×30 | |
| | | 1.70 | | | | | 2.05 | 2.05 | | | 2.30 | 2.20 | 2.30 | |
| 2200 | 222 | 22×30 | 25×25 | | | | 22×40 | 25×30 | 30×25 | | 22×50 | 25×40 | 30×30 | |
| | | 2.30 | 2.30 | | | | 2.30 | 2.30 | 2.30 | | 2.65 | 2.60 | 2.55 | |
| 2700 | 272 | 22×35 | 25×30 | | | | 22×45 | 25×35 | 30×30 | | | 25×45 | 30×35 | 35×30 |
| | | 2.40 | 2.45 | | | | 2.50 | 2.45 | 2.50 | | | 2.85 | 2.85 | 2.95 |
| 3300 | 332 | 22×40 | 25×35 | 30×25 | | | 22×50 | 25×40 | 30×30 | | | | 30×40 | 35×35 |
| | | 2.75 | 2.80 | 2.75 | | | 2.95 | 2.85 | 2.80 | | | | 3.45 | 3.45 |
| 3900 | 392 | 22×45 | 25×35 | 30×30 | | | | 25×45 | 30×35 | | | | 30×45 | 35×35 |
| | | 3.00 | 2.90 | 3.00 | | | | 3.20 | 3.20 | | | | 3.85 | 3.75 |
| 4700 | 472 | 22×50 | 25×40 | 30×30 | | | | 25×50 | 30×40 | 35×30 | | | | 35×40 |
| | | 3.30 | 3.25 | 3.20 | | | | 3.75 | 3.80 | 3.70 | | | | 4.30 |
| 5600 | 562 | | 25×45 | 30×35 | | | | 30×45 | 35×35 | | | | | 35×50 |
| | | | 3.75 | 3.75 | | | | 4.40 | 4.35 | | | | | 5.10 |
| 6800 | 682 | | | 30×40 | 35×30 | | | | 30×50 | 35×40 | | | | |
| | | | | 4.20 | 4.15 | | | | 4.80 | 4.80 | | | | |
| 8200 | 822 | | | 30×45 | 35×35 | | | | | 35×45 | | | | |
| | | | | 4.70 | 4.65 | | | | | 5.35 | | | | |
| 10000 | 103 | | | | 35×40 | | | | | | | | | |
| | | | | | 5.20 | | | | | | | | | |
| 12000 | 123 | | | | 35×50 | | | | | | | | | |
| | | | | | 6.10 | | | | | | | | | |

Case size Allowable ripple

Allowable Ripple (A rms) at 85°C 120Hz

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

LK series

■ Dimensions

DXL(mm)

| Cap.(μF) | V (Code) Code | #D | 160(2C) | | | | 200(2D) | | | | 250(2E) | | | |
|----------|------------------|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----|
| | | | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 |
| 180 | 181 | | | | | | | | | 22×25 0.95 | | | | |
| 220 | 221 | | | | | 22×25 1.10 | | | | 22×30 1.15 | 25×25 1.15 | | | |
| 270 | 271 | | | | | 22×30 1.25 | | | | 22×35 1.25 | 25×30 1.25 | | | |
| 330 | 331 | | 22×25 1.30 | | | 22×30 1.40 | 25×25 1.40 | | | 22×40 1.45 | 25×30 1.45 | 30×25 1.45 | | |
| 390 | 391 | | 22×30 1.50 | 25×25 1.55 | | 22×35 1.60 | 25×30 1.60 | | | 22×45 1.70 | 25×35 1.70 | 30×30 1.70 | | |
| 470 | 471 | | 22×35 1.75 | 25×30 1.75 | | 22×40 1.80 | 25×35 1.80 | 30×25 1.75 | | 22×50 1.90 | 25×40 1.90 | 30×35 1.90 | 35×25 1.90 | |
| 560 | 561 | | 22×35 1.90 | 25×30 1.90 | 30×25 1.95 | 22×45 2.00 | 25×35 2.00 | 30×30 2.05 | | | 25×45 2.15 | 30×35 2.15 | 35×30 2.15 | |
| 680 | 681 | | 22×40 2.15 | 25×35 2.20 | 30×30 2.20 | | 25×40 2.25 | 30×35 2.25 | 35×25 2.30 | | | 30×40 2.40 | 35×30 2.35 | |
| 820 | 821 | | 22×50 2.45 | 25×40 2.45 | 30×30 2.45 | 35×25 2.50 | 25×50 2.55 | 30×40 2.60 | 35×30 2.50 | | | 30×45 2.75 | 35×35 2.75 | |
| 1000 | 102 | | | 25×45 2.80 | 30×35 2.80 | 35×30 2.85 | | 30×45 2.95 | 35×35 2.90 | | | | 35×40 3.00 | |
| 1200 | 122 | | | 25×50 3.10 | 30×40 3.20 | 35×35 3.25 | | 30×50 3.40 | 35×40 3.40 | | | | 35×50 3.50 | |
| 1500 | 152 | | | | 30×45 3.70 | 35×40 3.75 | | | 35×45 3.80 | | | | | |
| 1800 | 182 | | | | | 35×40 4.00 | | | 35×50 4.15 | | | | | |
| 2200 | 222 | | | | | 35×50 4.50 | | | | | | | | |

| Cap.(μF) | V (Code) Code | #D | 400(2G) | | | | 450(2W) | | | | | |
|----------|------------------|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--|
| | | | 22 | 25 | 30 | 35 | 22 | 25 | 30 | 35 | | |
| 47 | 470 | | | | | | 22×25 0.49 | | | | | |
| 56 | 560 | | | | | | 22×30 0.57 | | | | | |
| 68 | 680 | | 22×25 0.58 | | | | 22×30 0.63 | 25×25 0.63 | | | | |
| 82 | 820 | | 22×30 0.60 | | | | 22×35 0.74 | 25×30 0.75 | | | | |
| 100 | 101 | | 22×30 0.77 | 25×25 0.77 | | | 22×40 0.88 | 25×35 0.89 | 30×25 0.86 | | | |
| 120 | 121 | | 22×35 0.86 | 25×30 0.86 | | | 22×45 0.96 | 25×40 0.98 | 30×30 0.96 | 35×25 0.99 | | |
| 150 | 151 | | 22×40 0.97 | 25×30 0.92 | 30×25 0.96 | | | 25×45 1.10 | 30×35 1.10 | 35×30 1.13 | | |
| 180 | 181 | | 22×45 1.10 | 25×35 1.06 | 30×30 1.11 | 35×25 1.13 | | 25×50 1.24 | 30×40 1.18 | 35×30 1.22 | | |
| 220 | 221 | | 22×50 1.25 | 25×40 1.22 | 30×35 1.28 | 35×30 1.32 | | | 30×45 1.42 | 35×35 1.40 | | |
| 270 | 271 | | | 25×50 1.39 | 30×40 1.47 | 35×30 1.46 | | | 30×50 1.62 | 35×40 1.61 | | |
| 330 | 331 | | | | 30×45 1.68 | 35×35 1.70 | | | | 35×45 1.83 | | |
| 390 | 391 | | | | 30×50 1.95 | 35×40 1.93 | | | | 35×50 2.10 | | |
| 470 | 471 | | | | | 35×45 2.23 | | | | | | |
| 560 | 561 | | | | | 35×50 2.54 | | | | | | |

Allowable Ripple (A rms) at 85°C 120Hz

● Frequency coefficient of allowable ripple current

| Coeff. | Frequency (Hz) | 50 | 60 | 120 | 1 k | 10k~ |
|--------|----------------|---------|------|------|------|------|
| | | 16~100V | 0.88 | 0.90 | 1.00 | 1.15 |
| | 160~250V | 0.85 | 0.88 | 1.00 | 1.15 | 1.20 |
| | 400・450V | 0.88 | 0.90 | 1.00 | 1.10 | 1.15 |

● Allowable ripple current vs. Ambient temperature

| Ambient temp.(°C) | ~+45 | +60 | +70 | +85 |
|-------------------|------|------|------|------|
| Coefficient | 1.48 | 1.42 | 1.30 | 1.00 |