

LKL(R)

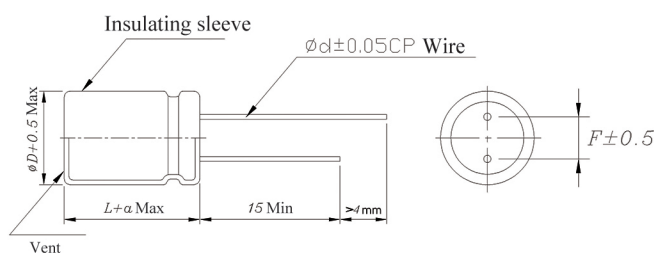
- ◆ 135°C 2000 Hours
- ◆ High Temperature, Low ESR
- ◆ High Reliability
- ◆ RoHS Compliant
- ◆ AEC-Q200 Qualified, Please Consult Us For More Details



■ Specification

| Items | Characteristics | | | | | | | | | | | | |
|---|--|---|--------------------------------|---|---|---|-----------------------------------|-------------------|---------|------|------|------|------|
| Operation Temperature Range | -55°C ~ +135°C; | | | | | | | | | | | | |
| Rated Voltage | 10 ~ 50V.DC | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (25±2°C 120Hz) | | | | | | | | | | | | |
| Leakage Current(µA) | 10 ~ 50WV I≤0.01CV or 3µA whichever is greater C:rated capacitance(µF) V:rated voltage(V) 2 minutes reading | | | | | | | | | | | | |
| Dissipation Factor (25±2°C 120Hz) | <table border="1"> <tr> <td>Rated Voltage(V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tgδ</td> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.20</td> <td>0.20</td> </tr> </table> | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | tgδ | 0.30 | 0.26 | 0.22 | 0.20 | 0.20 |
| | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | | | | | | | |
| tgδ | 0.30 | 0.26 | 0.22 | 0.20 | 0.20 | | | | | | | | |
| For those with rated capacitance larger than 1000µF, when the rated capacitance is increased by 1000µF, then tgδ will be increased by 0.02 | | | | | | | | | | | | | |
| Temperature Characteristics (120Hz) | <table border="1"> <tr> <td>Rated Voltage(V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> </tr> </table> | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | Z(-40°C)/Z(20°C) | 12 | 8 | 6 | 4 | 4 |
| | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | | | | | | | |
| Z(-40°C)/Z(20°C) | 12 | 8 | 6 | 4 | 4 | | | | | | | | |
| Endurance | After standard test time with applying the rated voltage with the rated ripple current in the oven at 135°C, the following specification shall be satisfied after 16 hours at 25±2°C. | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Capacitance change</td> <td>within±30% of the intial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 300% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>Not more than the specified value</td> </tr> <tr> <td>Load life(hours)</td> <td>2000hrs</td> </tr> </table> | Capacitance change | within±30% of the intial value | Dissipation Factor | Not more than 300% of the specified value | Leakage current | Not more than the specified value | Load life(hours) | 2000hrs | | | | |
| | Capacitance change | within±30% of the intial value | | | | | | | | | | | |
| | Dissipation Factor | Not more than 300% of the specified value | | | | | | | | | | | |
| | Leakage current | Not more than the specified value | | | | | | | | | | | |
| Load life(hours) | 2000hrs | | | | | | | | | | | | |
| Shelf Life At High Temperature | After leaving capacitors under no load at 105°C for 1000 hours, the following specification shall be satisfied at 25±2°C. | | | | | | | | | | | | |
| <table border="1"> <tr> <td>Capacitance change</td> <td>within±30% of the intial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 300% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>Not more than 200% of the specified value</td> </tr> </table> | Capacitance change | within±30% of the intial value | Dissipation Factor | Not more than 300% of the specified value | Leakage current | Not more than 200% of the specified value | | | | | | | |
| Capacitance change | within±30% of the intial value | | | | | | | | | | | | |
| Dissipation Factor | Not more than 300% of the specified value | | | | | | | | | | | | |
| Leakage current | Not more than 200% of the specified value | | | | | | | | | | | | |

■ Standard Size (Unit: mm)



| | | | | | | |
|---|--------------------------|----------|-----|------|-----|-----|
| D | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
| d | 0.5(0.45) | 0.6(0.5) | 0.6 | 0.6 | 0.8 | 0.8 |
| F | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| a | L<20 α=1.0 L≥20 α=2.0 | | | | | |

Remark: capacitors with diameter more than 6.3 have safety vent

■ Ripple Current Correction Factor

| | | | | |
|---------------|------|-----|------|------|
| Frequency(Hz) | 50 | 120 | 1K | ≥10K |
| Coefficient | 0.35 | 0.5 | 0.83 | 1.00 |

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■ Standard Size

| Voltage (V) | | 10 | | | 16 | | | 25 | | | 35 | | |
|---------------------------|--------------|---------------------------------|--|--------------|---------------------------------|--|--------------|---------------------------------|--|--------------|---------------------------------|--|----|
| Items Capacitance (μF) | Size D×L(mm) | Impedance (Ω max/100KHz 25±2°C) | Ripple Current (mA/r.m.s /135°C100KHz) | Size D×L(mm) | Impedance (Ω max/100KHz 25±2°C) | Ripple Current (mA/r.m.s /135°C100KHz) | Size D×L(mm) | Impedance (Ω max/100KHz 25±2°C) | Ripple Current (mA/r.m.s /135°C100KHz) | Size D×L(mm) | Impedance (Ω max/100KHz 25±2°C) | Ripple Current (mA/r.m.s /135°C100KHz) | |
| | | | | | | | | | | | | | 47 |
| 47 | | | | | | | | | | 8×9 | 0.4 | 270 | |
| 68 | | | | | | | | | | 8×9 | 0.4 | 270 | |
| 100 | | | | 6.3×9 | 0.5 | 197 | 8×9 | 0.4 | 270 | 6.3×9 | 0.5 | 197 | |
| 100 | | | | 8×9 | 0.4 | 270 | | | | 8×9 | 0.4 | 270 | |
| 220 | 8×9 | 0.4 | 270 | 8×9 | 0.4 | 270 | 10×9 | 0.3 | 500 | 10×9 | 0.3 | 500 | |
| 330 | 8×9 | 0.4 | 270 | 10×9 | 0.3 | 500 | 10×9 | 0.3 | 500 | | | | |
| 330 | 10×9 | 0.3 | 500 | | | | | | | | | | |
| 470 | 10×9 | 0.3 | 500 | 10×9 | 0.3 | 500 | | | | 12.5×13 | 0.14 | 750 | |
| 560 | | | | | | | | | | 12.5×13 | 0.14 | 750 | |
| 680 | | | | | | | | | | 12.5×13 | 0.14 | 750 | |
| 820 | | | | | | | 12.5×13 | 0.14 | 750 | 16×16 | 0.1 | 1200 | |
| 1000 | | | | | | | 12.5×13 | 0.14 | 750 | 16×16 | 0.1 | 1200 | |
| 1200 | | | | | | | 16×16 | 0.1 | 1200 | 18×16 | 0.1 | 1400 | |
| 1500 | | | | | | | 16×16 | 0.1 | 1200 | 16×20 | 0.08 | 1900 | |
| 1500 | | | | | | | | | | 18×16 | 0.1 | 1400 | |
| 1800 | | | | | | | 16×16 | 0.1 | 1200 | 18×20 | 0.07 | 2200 | |
| 2200 | | | | | | | 18×16 | 0.1 | 1400 | 18×20 | 0.07 | 2200 | |
| 2700 | | | | | | | 16×20 | 0.08 | 1900 | | | | |
| 3300 | | | | | | | 18×20 | 0.07 | 2200 | | | | |

| Voltage (V) | | 50 | | |
|---------------------------|--------------|---------------------------------|--|----|
| Items Capacitance (μF) | Size D×L(mm) | Impedance (Ω max/100KHz 25±2°C) | Ripple Current (mA/r.m.s /135°C100KHz) | |
| | | | | 47 |
| 100 | 10×9 | 0.4 | 500 | |
| 390 | 12.5×13 | 0.18 | 750 | |
| 470 | 16×16 | 0.14 | 1000 | |
| 560 | 16×16 | 0.14 | 1000 | |
| 680 | 18×16 | 0.14 | 1200 | |
| 820 | 18×16 | 0.14 | 1200 | |
| 1000 | 16×20 | 0.1 | 1600 | |
| 1200 | 18×20 | 0.08 | 1900 | |