

ALUMINUM ELECTROLYTIC CAPACITORS

LLR series Load Type For Power

LLR 20 Ø

FEATURES

- Load Life: 85°C 2000~3000 Hours.
- Substitute of Snap-in.
- 20Ø Radial lead type for Power Supply

SPECIFICATIONS

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-----------|----------------|------|-------------|---------------|-------------------|------------------------------------|----------|----------------|--------------------|-------------------------------------|---|--------------|--------------------|--|-----------|------|---|---------------|---|--|--|--|
| Operating Temperature Range | -40°C ~ +85°C (200~250V), -25°C ~ +85°C (350~450V) | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 160~450V | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Range | 150~820 μ F | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | $\pm 20\%$ (20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (MAX) | $I \leq 0.02CV$ After 5minutes with rated working voltage applied $I = \text{Leakage Current} (\mu A)$, $C = \text{Nominal Capacitance} (\mu F)$, $V = \text{Rated Voltage} (V)$ | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tan δ) | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> <td>MAX</td> </tr> <tr> <td>Tan δ</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>(20°C, 120Hz)</td> </tr> </table> | | | | | | Rated voltage (V) | 200 | 250 | 350 | 400 | 450 | MAX | Tan δ | 0.15 | 0.15 | 0.15 | 0.15 | 0.20 | (20°C, 120Hz) | | | | |
| Rated voltage (V) | 200 | 250 | 350 | 400 | 450 | MAX | | | | | | | | | | | | | | | | | | |
| Tan δ | 0.15 | 0.15 | 0.15 | 0.15 | 0.20 | (20°C, 120Hz) | | | | | | | | | | | | | | | | | | |
| Low Temperature Stability Impedance Ratio | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>250</td> <td>350~400</td> <td>450</td> <td>MAX (120Hz)</td> </tr> <tr> <td>$Z(-25^\circ\text{C})/Z(+20^\circ\text{C})$</td> <td>3</td> <td>5</td> <td>8</td> <td>17</td> <td></td> </tr> <tr> <td>$Z(-40^\circ\text{C})/Z(+20^\circ\text{C})$</td> <td>4</td> <td>8</td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | Rated voltage (V) | 200 | 250 | 350~400 | 450 | MAX (120Hz) | $Z(-25^\circ\text{C})/Z(+20^\circ\text{C})$ | 3 | 5 | 8 | 17 | | $Z(-40^\circ\text{C})/Z(+20^\circ\text{C})$ | 4 | 8 | | | |
| Rated voltage (V) | 200 | 250 | 350~400 | 450 | MAX (120Hz) | | | | | | | | | | | | | | | | | | | |
| $Z(-25^\circ\text{C})/Z(+20^\circ\text{C})$ | 3 | 5 | 8 | 17 | | | | | | | | | | | | | | | | | | | | |
| $Z(-40^\circ\text{C})/Z(+20^\circ\text{C})$ | 4 | 8 | | | | | | | | | | | | | | | | | | | | | | |
| Load Life | After life test at conditions stated in the table below,,the capacitors shall requirement <table border="1"> <tr> <td>Leakage Current</td> <td>not more than the specified value.</td> <td>Case Dia</td> <td>Life Time(hrs)</td> </tr> <tr> <td>Capacitance Change</td> <td>Within $\pm 25\%$ of initial value.</td> <td>200V~250V</td> <td>3000</td> </tr> <tr> <td>Dissipation Factor</td> <td>not more than 200% of the specified value.</td> <td>350V~450V</td> <td>2000</td> </tr> </table> | | | | | | Leakage Current | not more than the specified value. | Case Dia | Life Time(hrs) | Capacitance Change | Within $\pm 25\%$ of initial value. | 200V~250V | 3000 | Dissipation Factor | not more than 200% of the specified value. | 350V~450V | 2000 | | | | | | |
| Leakage Current | not more than the specified value. | Case Dia | Life Time(hrs) | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within $\pm 25\%$ of initial value. | 200V~250V | 3000 | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor | not more than 200% of the specified value. | 350V~450V | 2000 | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life | After leaving capacitors under no load at 85°C for 500 hours, they meet the characteristic requirements listed at above. | | | | | | | | | | | | | | | | | | | | | | | |
| Standard | According to JIS C-5141 | | | | | | | | | | | | | | | | | | | | | | | |

MULTIPLIER FOR RIPPLE CURRENT

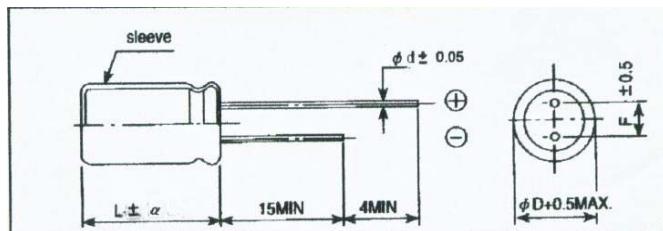
Frequency coefficient

| Frequency(Hz) | 60(50) | 120 | 1k | 10k | $\geq 100k$ |
|---------------|--------|-----|------|------|-------------|
| Coefficient | 0.8 | 1.0 | 1.25 | 1.40 | 1.50 |

ALUMINUM ELECTROLYTIC CAPACITORS

LLR series

DIMENSIONS (mm)



| | |
|-------------|-----|
| φD | 20 |
| φd | 0.8 |
| F | 10 |
| α | 2 |

STANDARD SIZES AND PERMISSIBLE RIPPLE CURRENT

SIZE φ DxL(mm) Ripple Current(mA 85°C, r.m.s)

| W.V Cap (μ F) | 200 | | 250 | | 350 | | 400 | | 450 | |
|--------------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|
| | SIZE | RIPPLE (120HZ) |
| 150 | | | | | 20*31.5 | 680 | 20*31.5 | 660 | 20*36.5 | 670 |
| 220 | | | 20*31.5 | 800 | 20*36.5 | 850 | 20*41.5 | 760 | 20*46.5 | 800 |
| 270 | | | 20*31.5 | 850 | 20*41.5 | 890 | 20*46.5 | 780 | | |
| 330 | 20*31.5 | 950 | 20*31.5 | 1000 | 20*46.5 | 1100 | | | | |
| 390 | 20*31.5 | 1100 | 20*36.5 | 1120 | | | | | | |
| 470 | 20*31.5 | 1250 | 20*41.5 | 1350 | | | | | | |
| 560 | 20*36.5 | 1320 | 20*46.5 | 1450 | | | | | | |
| 680 | 20*41.5 | 1450 | | | | | | | | |
| 820 | 20*46.5 | 1510 | | | | | | | | |