

Datasheet

Aluminium Electrolytic Capacitor, LHK

RS Stock number 707-6502



Specifications:

| Item | Performance Characteristics | |
|---|-----------------------------|---|
| Operating Temperature Range | -40 to +105°C | -25 to +105°C |
| Rated Voltage Range | 10 to 100 VDC | 160 to 450 VDC |
| Capacitance Tolerance | + 20% (120Hz, +20°C) | |
| Leakage Current (at 20°C) | 10V ~ 100V DC | 160V ~ 450V DC |
| | $I \leq 0.02CV + 3 (\mu A)$ | $I \leq 0.05CV + 4 (\mu A)$ |
| I: Leakage current (µA) C: Rated capacitance (µF) V: Working voltage (V) After 5 minutes applying the DC working voltage | | |
| Surge Voltage (20°C) | W.V | 10 16 25 35 50 60 100 160 160 200 250 350 400 450 |
| | S.V | 13 20 32 44 63 79 125 200 200 250 300 400 450 500 |
| Dissipation Factor (120Hz, 20°C) | W.V | 10 16 25 35 50 63 100 160 200 250 350 400 450 |
| | Tan δ | |
| For capacitance > 1000µ F, add 2% per another 1000µ (+20°C at 120Hz) | | |

Specifications:

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|--|--------------------|----------------------------------|------|---|-----------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-------------|---|---|---|---|---|---|---|---|---|---|----|----|----|-------------|---|---|---|---|---|---|---|---|---|----|---|---|---|
| Temperature Characteristics | Impedance ratio max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>W.V</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>-25°C/+20°C</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>8</td> <td>8</td> <td>8</td> <td>12</td> <td>15</td> <td>16</td> </tr> <tr> <td>-40°C/+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>6</td> <td>6</td> <td>10</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | W.V | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | -25°C/+20°C | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 8 | 8 | 8 | 12 | 15 | 16 | -40°C/+20°C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 6 | 6 | 10 | - | - | - |
| | W.V | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -25°C/+20°C | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 8 | 8 | 8 | 12 | 15 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -40°C/+20°C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 6 | 6 | 10 | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load Test | After 1000 hours application of W.V at +105°C. The capacitor shall meet the following limits. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>$\leq \pm 20\%$ of initial value</td> </tr> <tr> <td>Tang</td> <td>$\leq \pm 20\%$ of initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>$\leq \pm$ initial specified value</td> </tr> </tbody> </table> | Capacitance Change | $\leq \pm 20\%$ of initial value | Tang | $\leq \pm 20\%$ of initial specified value | Leakage Current | $\leq \pm$ initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | $\leq \pm 20\%$ of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tang | $\leq \pm 20\%$ of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $\leq \pm$ initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Test | After 500 hours application of W.V AT +105°C. This capacitor shall meet the following limits. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>$\leq \pm 20\%$ of initial value</td> </tr> <tr> <td>Tang</td> <td>$\leq \pm 200\%$ of initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>$\leq \pm 200\%$ of initial specified value</td> </tr> </tbody> </table> | Capacitance Change | $\leq \pm 20\%$ of initial value | Tang | $\leq \pm 200\%$ of initial specified value | Leakage Current | $\leq \pm 200\%$ of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | $\leq \pm 20\%$ of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tang | $\leq \pm 200\%$ of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $\leq \pm 200\%$ of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Diagram of Dimensions:



Unit (mm)

| D | 5 | 6 | 8 | 10 | 13 | 16 | 18 | 20 | 22 | 25 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| φd | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |

(Unit: mm)

Features:

- Used in communication equipment's, switching power supply, etc.
- Safety vent construction design

Ripple Current & Frequency Multipliers

| Freq.(Hz) Cap.(µF) | 50(60) | 120 | 500 | 1K | 10KUP |
|-----------------------|--------|------|------|------|-------|
| Under 100 | 0.70 | 1.00 | 1.30 | 1.40 | 1.50 |
| 100 < C ≤ 1000 | 0.75 | 1.00 | 1.20 | 1.30 | 1.35 |
| 1000 up above | 0.80 | 1.00 | 1.10 | 1.12 | 1.15 |

Case Size

Ø D x L (mm)

| WV µF | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 100 | |
|----------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |
| 0.47 | | | | | | | | ▶ | 6x13 | 8 | 6x13 | 8 | 6x13 | 10 |
| 1 | | | | | | | | ▶ | 6x13 | 12 | 6x13 | 12 | 6x13 | 14 |
| 2.2 | | | | | | | | ▶ | 6x13 | 18 | 6x13 | 20 | 6x13 | 22 |
| 3.3 | | | | | | | | ▶ | 6x13 | 23 | 6x13 | 24 | 6x13 | 27 |
| 4.7 | | | | | | | | ▶ | 6x13 | 27 | 6x13 | 29 | 6x13 | 34 |
| 10 | | | | ▶ | 6x13 | 40 | 6x13 | 40 | 6x13 | 40 | 6x13 | 48 | 8x16 | 58 |
| 22 | | | | ▶ | 6x13 | 48 | 6x13 | 59 | 6x13 | 62 | 6x13 | 81 | 8x20 | 100 |
| 33 | | ▶ | 6x13 | 58 | 6x13 | 65 | 6x13 | 69 | 8x16 | 88 | 8x16 | 99 | 8x20 | 135 |
| 47 | 6x13 | 60 | 6x13 | 73 | 6x13 | 77 | 6x13 | 105 | 8x16 | 115 | 8x16 | 138 | 10x21 | 150 |
| 100 | 6x13 | 98 | 6x16 | 102 | 8x16 | 140 | 8x16 | 205 | 8x16 | 252 | 10x21 | 280 | 13x22 | 300 |
| 220 | 8x16 | 170 | 8x16 | 220 | 8x16 | 260 | 8x16 | 305 | 10x20 | 320 | 13x22 | 394 | 16x28 | 505 |
| 330 | 8x16 | 243 | 8x16 | 250 | 10x21 | 320 | 10x21 | 350 | 13x22 | 415 | 13x26 | 505 | 16x33 | 660 |
| 470 | 8x16 | 315 | 10x17 | 385 | 10x21 | 420 | 13x22 | 530 | 13x26 | 640 | 16x26 | 715 | 18x36 | 875 |
| 1000 | 10x21 | 480 | 13x22 | 615 | 13x26 | 760 | 13x26 | 820 | 16x33 | 955 | 16x36 | 1150 | | |
| 2200 | 13x22 | 940 | 13x26 | 1000 | 16x28 | 1050 | 16x36 | 1165 | 18x36 | 1680 | 22x42 | 1980 | | |
| 3300 | 13x26 | 1150 | 16x33 | 1340 | 16x36 | 1500 | 18x36 | 1800 | 22x42 | 2080 | | | | |
| 4700 | 16x28 | 1400 | 16x36 | 1580 | 18x36 | 1980 | 22x42 | 2100 | | | | | | |

Ripple Current(mA, rms)at 105□ 120Hz

Case size:

| uF \ WV | 160 | | 200 | | 250 | | 350 | | 400 | | 450 | |
|---------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |
| 0.47 | 6x13 | 10 | 6x13 | 10 | 6x13 | 10 | 6x13 | 10 | 6x16 | 10 | 6x16 | 10 |
| 1 | 6x13 | 10 | 6x16 | 10 | 6x16 | 11 | 8x16 | 11 | 8x16 | 13 | 8x16 | 13 |
| 2.2 | 8x16 | 16 | 8x16 | 16 | 8x16 | 21 | 10x17 | 26 | 10x17 | 32 | 10x17 | 32 |
| 3.3 | 8x16 | 26 | 10x17 | 26 | 10x17 | 26 | 10x17 | 30 | 10x21 | 33 | 10x21 | 33 |
| 4.7 | 8x16 | 36 | 10x17 | 38 | 10x17 | 40 | 10x21 | 49 | 13x22 | 52 | 13x22 | 52 |
| 10 | 10x21 | 60 | 10x21 | 68 | 10x21 | 78 | 13x22 | 84 | 13x24 | 86 | 16x28 | 90 |
| 22 | 13x22 | 82 | 13x22 | 92 | 13x27 | 92 | 16x33 | 86 | 16x33 | 86 | 16x33 | 91 |
| 33 | 13x22 | 105 | 16x28 | 116 | 16x33 | 116 | 16x36 | 116 | 18x36 | 135 | | |
| 47 | 16x28 | 175 | 16x33 | 238 | 16x33 | 238 | 16x36 | 238 | | | | |
| 100 | 16x33 | 410 | 18x36 | 460 | 18x36 | 460 | | | | | | |
| 220 | 22x42 | 515 | 22x42 | 585 | | | | | | | | |

Ripple Current(mA, rms)at 105□ 120Hz