

# Datasheet

## Aluminium Electrolytic Capacitor, LHK

RS Stock number 707-6515



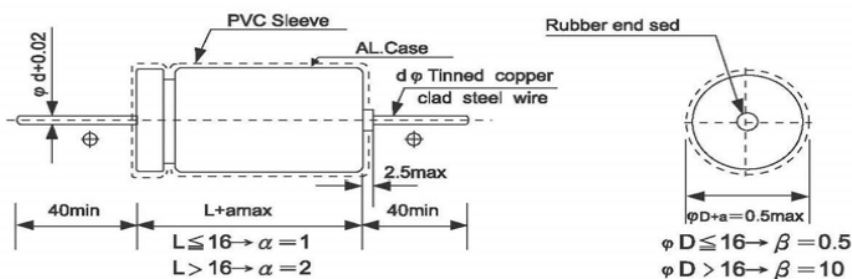
### Specifications:

| 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 ( $\mu A$ )<br>C: Rated capacitance ( $\mu F$ )<br>V: Working voltage (V)<br>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 $\delta$                |   |
| For capacitance > 1000 $\mu$ F, add 2% per another 1000 $\mu$ (+20°C at 120Hz)  |                             |   |

### Specifications:

| Item                        | Performance Characteristics   |   |    |    |    |    |    |     |     |     |     |     |     |     |
|-----------------------------|---|---|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| Temperature Characteristics | Impedance ratio max.  |   |    |    |    |    |    |     |     |     |     |     |     |     |
|                             | 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. |   |    |    |    |    |    |     |     |     |     |     |     |     |
|                             | 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. |   |    |    |    |    |    |     |     |     |     |     |     |     |
|                             | 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)

| (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 |

**Features:**

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

**Ripple Current & Frequency Multipliers**

| Freq.(Hz)<br>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<br>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