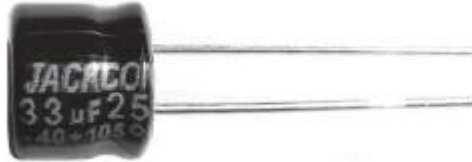


# Datasheet

## Aluminium Electrolytic Capacitor

RS Stock number 706-0478



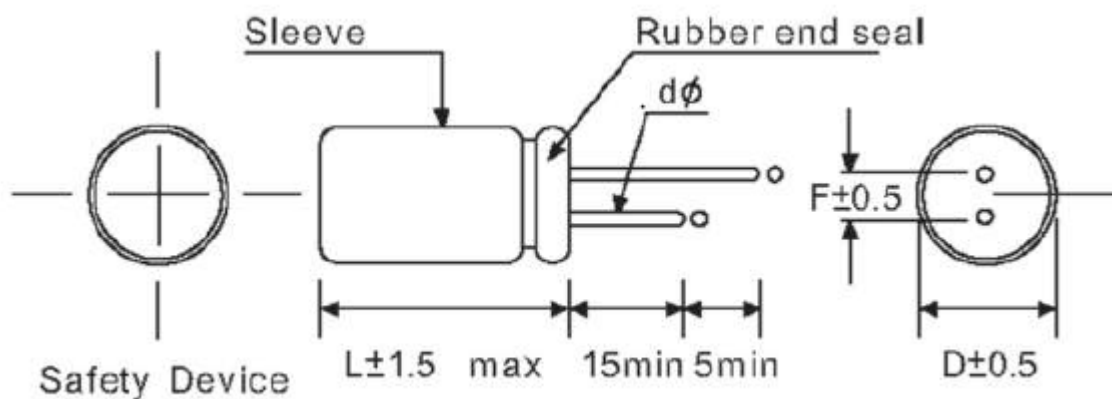
### Specifications:

| Item                                       | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----|-----|----|----|----|----|----|---------------------|----|----|----|----|----|----|----|--------------------|----|---|---|---|---|---|---|
| Operating Temperature Range                | -40 to +105°C                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Rated Voltage Range                        | 4 to 50 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Capacitance Tolerance                      | ± 20% (120Hz, +20°C)                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Capacitance Range                          | 0.1 to 220 µF                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Leakage Current (+20°C max.)               | I < 0.01 CV or 3 (µA)<br>After 2 minutes whichever is greater measured with rated working voltage applied.                                                                                                                                                                                                                                                                                                                                                        |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Dissipation Factor                         | <table border="1"> <thead> <tr> <th>Working Voltage (VDC)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>D.F. (%) max.</td> <td>35</td> <td>28</td> <td>24</td> <td>20</td> <td>16</td> <td>14</td> <td>12</td> </tr> </tbody> </table> <p>(+20°C at 120Hz)</p>                                                                                                                         | Working Voltage (VDC) | 4  | 6.3 | 10 | 16 | 25 | 35 | 50 | D.F. (%) max.       | 35 | 28 | 24 | 20 | 16 | 14 | 12 |                    |    |   |   |   |   |   |   |
| Working Voltage (VDC)                      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.3                   | 10 | 16  | 25 | 35 | 50 |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| D.F. (%) max.                              | 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 28                    | 24 | 20  | 16 | 14 | 12 |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio max.</p> <table border="1"> <thead> <tr> <th>Working Voltage (VDC)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z (-25°C)/Z (+20°C)</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z (-40°C)/Z(+20°C)</td> <td>15</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </tbody> </table> | Working Voltage (VDC) | 4  | 6.3 | 10 | 16 | 25 | 35 | 50 | Z (-25°C)/Z (+20°C) | 7  | 4  | 3  | 2  | 2  | 2  | 2  | Z (-40°C)/Z(+20°C) | 15 | 8 | 6 | 4 | 4 | 4 | 4 |
| Working Voltage (VDC)                      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.3                   | 10 | 16  | 25 | 35 | 50 |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Z (-25°C)/Z (+20°C)                        | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 4                     | 3  | 2   | 2  | 2  | 2  |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Z (-40°C)/Z(+20°C)                         | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8                     | 6  | 4   | 4  | 4  | 4  |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Load Life                                  | <p>Test Conditions:</p> <p>Duration time: 1000Hrs</p> <p>Ambient temperature: +105°C</p> <p>Applied voltage: Rated DC working voltage</p> <p>After test requirements : ≤ 30% of the initial measured value</p> <p>Dissipation Factor: ≤ 200% of the initial specified value</p> <p>Leakage Current: ≤ the initial specified value</p>                                                                                                                             |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |
| Shelf Life                                 | <p>Test Conditions:</p> <p>Duration time: 1000Hrs</p> <p>Ambient temperature: +105°C</p> <p>Applied voltage: None</p> <p>After test requirements at +20°C: Same limits as load life</p> <p>Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes</p>                                                                                                                                                           |                       |    |     |    |    |    |    |    |                     |    |    |    |    |    |    |    |                    |    |   |   |   |   |   |   |

**Features:**

- 5.0 +1mm max. height
- Load life 105°C, 1000hours assured

**Diagram of Dimensions:**



(Unit: mm)

|    |         |         |         |         |
|----|---------|---------|---------|---------|
| D  | 4       | 5       | 6.3     | 8       |
| F  | 1.5±0.5 | 2.0±0.5 | 2.5±0.5 | 3.5±0.5 |
| φd | 0.45    |         |         |         |

**Ripple Current & Temperature**

|                 |     |     |      |     |
|-----------------|-----|-----|------|-----|
| Temperature(°C) | 45  | 65  | 85   | 105 |
| Multiplier      | 2.0 | 1.6 | 1.25 | 1.0 |

**Ripple Current & Frequency Multiplier**

|                      |      |        |     |      |      |
|----------------------|------|--------|-----|------|------|
| Cap.(µF) \ Freq.(Hz) |      | 50(60) | 120 | 1K   | 10K  |
|                      |      | 0.1~47 | 0.8 | 1.0  | 1.30 |
| Multiplier           | 56UP | 0.8    | 1.0 | 1.15 | 1.20 |

Case Size

Ø D x L (mm)

| uF \ W.V. (S.V.) | 4 {5} |        | 6.3 {8} |        | 10 {13} |            | 16 {20}    |            | 25 {32}  |        | 35 {44} |            | 50 {63}    |        |    |
|------------------|-------|--------|---------|--------|---------|------------|------------|------------|----------|--------|---------|------------|------------|--------|----|
|                  | Size  | Ripple | Size    | Ripple | Size    | Ripple     | Size       | Ripple     | Size     | Ripple | Size    | Ripple     | Size       | Ripple |    |
| 0.1              | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 1.0<br>1.0 |        |    |
| 0.22             | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 2.0<br>2.0 |        |    |
| 0.33             | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 2.8<br>2.8 |        |    |
| 0.47             | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 3.8<br>4.0 |        |    |
| 1                | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 6.2<br>8.0 |        |    |
| 2.2              | →     |        |         |        |         |            |            |            |          |        |         | 3x5<br>4x5 | 8.0<br>10  |        |    |
| 3.3              | →     |        |         |        |         |            |            |            |          |        |         | 3x5        | 9.0        | 4x5    | 17 |
| 4.7              | →     |        |         |        |         | 3x5<br>4x5 | 9.0<br>15  | 3x5<br>4x5 | 10<br>18 | 4x5    | 20      | 4x5        | 20         |        |    |
| 10               | →     |        |         |        |         | 3x5<br>4x5 | 18<br>20   | 4x5        | 25       | 5x5    | 29      | 6x5        | 30         |        |    |
| 22               | →     |        |         |        |         | 4x5        | 30         | 5x5        | 40       | 6x5    | 46      | 6x5        | 54         |        |    |
| 33               | 4x5   | 26     | 4x5     | 30     | 4x5     | 35         | 5x5        | 40         | 6x5      | 50     | 6x5     | 60         | 8x5        | 68     |    |
| 47               | 4x5   | 35     | 4x5     | 38     | 5x5     | 46         | 5x5<br>6x5 | 50<br>58   | 6x5      | 62     | 8x5     | 72         | -          | -      |    |
| 68               | 4x5   | 49     | 5x5     | 55     | 6x5     | 60         | 6x5        | 72         | 8x5      | 75     | -       | -          | -          | -      |    |
| 100              | 5x5   | 58     | 5x5     | 60     | 6x5     | 76         | 6x5        | 86         | 8x5      | 92     | -       | -          | -          | -      |    |
| 220              | 6x5   | 74     | 6x5     | 90     | 6x5     | 90         | 8x5        | 92         | -        | -      | -       | -          | -          | -      |    |

Ripple Current(mA,rms)at105□120Hz