

# ALUMINUM ELECTROLYTIC CAPACITORS

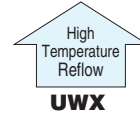
# UWJ

5.5mmL Chip Type  
High Temperature (260°C) Reflow



- Corresponding with 260°C peak reflow soldering  
Recommended reflow condition : 260°C peak 5 sec. 230°C over 60 sec. 2 times
- Chip type with 5.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Load life of 2000 hours at 85°C
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

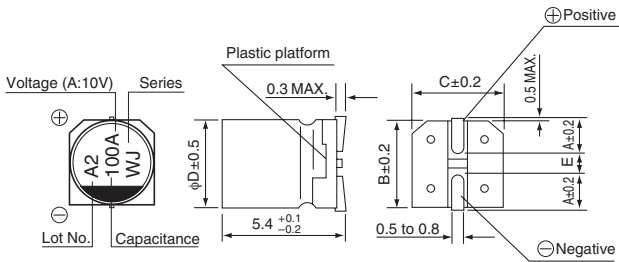
## UWJ



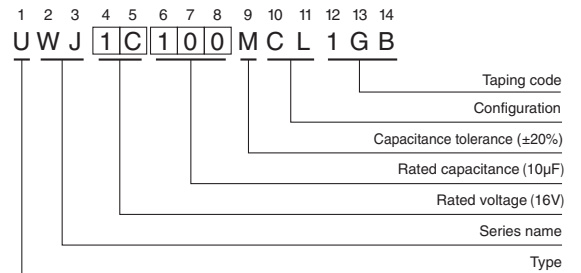
### Specifications

| Item                               | Performance Characteristics   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
|------------------------------------|---|--------------------|--|-------|---|-----------------|---|----|--------------|------------------------------------|-----------------|------|------|------|------|---|---|-----------------|---|---|---|---|---|
| Category Temperature Range         | -40 to +85°C  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Rated Voltage Range                | 6.3 to 50V  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Rated Capacitance Range            | 1 to 150μF  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Capacitance Tolerance              | ±20% at 120Hz, 20°C   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Leakage Current                    | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (μA) , whichever is greater.  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Tangent of loss angle (tan δ)      | Measurement frequency : 120Hz at 20°C   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
|                                    | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.26</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> </tr> </table>   | Rated voltage (V)  | 6.3  | 10    | 16  | 25              | 35  | 50 | tan δ (MAX.) | 0.26                               | 0.20            | 0.16 | 0.14 | 0.12 | 0.12 |   |   |                 |   |   |   |   |   |
| Rated voltage (V)                  | 6.3   | 10                 | 16   | 25    | 35  | 50              |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| tan δ (MAX.)                       | 0.26  | 0.20               | 0.16   | 0.14  | 0.12  | 0.12            |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Stability at Low Temperature       | Measurement frequency : 120Hz   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
|                                    | <table border="1"> <tr> <td colspan="2">Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td rowspan="2">Impedance ratio<br/>ZT / Z20 (MAX.)</td> <td>Z-25°C / Z+20°C</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>8</td> <td>8</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>   | Rated voltage (V)  |  | 6.3   | 10  | 16              | 25  | 35 | 50           | Impedance ratio<br>ZT / Z20 (MAX.) | Z-25°C / Z+20°C | 4    | 3    | 2    | 2    | 2 | 2 | Z-40°C / Z+20°C | 8 | 8 | 4 | 4 | 3 |
| Rated voltage (V)                  |   | 6.3                | 10   | 16    | 25  | 35              | 50  |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Impedance ratio<br>ZT / Z20 (MAX.) | Z-25°C / Z+20°C   | 4                  | 3  | 2     | 2   | 2               | 2   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
|                                    | Z-40°C / Z+20°C   | 8                  | 8  | 4     | 4   | 3               | 3   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Endurance                          | <p>The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>   | Capacitance change | Within ±20% of the initial capacitance value | tan δ | 200% or less than the initial specified value     | Leakage Current | Less than or equal to the initial specified value |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Capacitance change                 | Within ±20% of the initial capacitance value  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| tan δ                              | 200% or less than the initial specified value   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Leakage Current                    | Less than or equal to the initial specified value   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Shelf Life                         | <p>After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.</p>   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Resistance to soldering heat       | <p>The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within ±10% of the initial capacitance value | tan δ | Less than or equal to the initial specified value | Leakage current | Less than or equal to the initial specified value |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Capacitance change                 | Within ±10% of the initial capacitance value  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| tan δ                              | Less than or equal to the initial specified value   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Leakage current                    | Less than or equal to the initial specified value   |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |
| Marking                            | Black print on the case top.  |                    |  |       |   |                 |   |    |              |                                    |                 |      |      |      |      |   |   |                 |   |   |   |   |   |

### Chip Type



### Type numbering system (Example : 16V 10μF)



### Voltage

| V    | 6.3 | 10 | 16 | 25 | 35 | 50 |
|------|-----|----|----|----|----|----|
| Code | j   | A  | C  | E  | V  | H  |

|    | (mm) |     |     |
|----|------|-----|-----|
| φD | 4    | 5   | 6.3 |
| A  | 1.8  | 2.1 | 2.4 |
| B  | 4.3  | 5.3 | 6.6 |
| C  | 4.3  | 5.3 | 6.6 |
| E  | 1.0  | 1.3 | 2.2 |

### Frequency coefficient of rated ripple current

| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
|-------------|-------|--------|--------|-------|----------------|
| Coefficient | 0.70  | 1.00   | 1.17   | 1.36  | 1.50           |

● Dimension table in next page.

UWJ

## ■ Dimensions

| Rated Voltage<br>(V)<br>(code) | Rated<br>Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D $\times$ L (mm) | tan $\delta$ | Leakage Current<br>( $\mu$ A)<br>(at 20°C after<br>2 minutes) | Rated Ripple<br>(mArms)<br>(85°C/120Hz) | Part Number    |
|--------------------------------|------------------------------------|---------------------------------------|--------------|---|---|----------------|
| 6.3<br>(0J)                    | 22                                 | 4 $\times$ 5.4                        | 0.26         | 3   | 28                                      | UWJ0J220MCL1GB |
|                                | 33                                 | 5 $\times$ 5.4                        | 0.26         | 3   | 37                                      | UWJ0J330MCL1GB |
|                                | 47                                 | 5 $\times$ 5.4                        | 0.26         | 3   | 45                                      | UWJ0J470MCL1GB |
|                                | 100                                | 6.3 $\times$ 5.4                      | 0.26         | 6.3   | 70                                      | UWJ0J101MCL1GB |
|                                | 150                                | 6.3 $\times$ 5.4                      | 0.26         | 9.45  | 71                                      | UWJ0J151MCL1GB |
| 10<br>(1A)                     | 22                                 | 5 $\times$ 5.4                        | 0.20         | 3   | 33                                      | UWJ1A220MCL1GB |
|                                | 33                                 | 5 $\times$ 5.4                        | 0.20         | 3.3   | 41                                      | UWJ1A330MCL1GB |
|                                | 47                                 | 6.3 $\times$ 5.4                      | 0.20         | 4.7   | 52                                      | UWJ1A470MCL1GB |
|                                | 100                                | 6.3 $\times$ 5.4                      | 0.20         | 10  | 76                                      | UWJ1A101MCL1GB |
| 16<br>(1C)                     | 10                                 | 4 $\times$ 5.4                        | 0.16         | 3   | 23                                      | UWJ1C100MCL1GB |
|                                | 22                                 | 5 $\times$ 5.4                        | 0.16         | 3.52  | 37                                      | UWJ1C220MCL1GB |
|                                | 33                                 | 6.3 $\times$ 5.4                      | 0.16         | 5.28  | 49                                      | UWJ1C330MCL1GB |
|                                | 47                                 | 6.3 $\times$ 5.4                      | 0.16         | 7.52  | 58                                      | UWJ1C470MCL1GB |
|                                | 100                                | 6.3 $\times$ 5.4                      | 0.16         | 16  | 86                                      | UWJ1C101MCL1GB |
| 25<br>(1E)                     | 4.7                                | 4 $\times$ 5.4                        | 0.14         | 3   | 16                                      | UWJ1E4R7MCL1GB |
|                                | 10                                 | 5 $\times$ 5.4                        | 0.14         | 3   | 27                                      | UWJ1E100MCL1GB |
|                                | 22                                 | 6.3 $\times$ 5.4                      | 0.14         | 5.5   | 42                                      | UWJ1E220MCL1GB |
|                                | 33                                 | 6.3 $\times$ 5.4                      | 0.14         | 8.25  | 52                                      | UWJ1E330MCL1GB |
| 35<br>(1V)                     | 4.7                                | 4 $\times$ 5.4                        | 0.12         | 3   | 18                                      | UWJ1V4R7MCL1GB |
|                                | 10                                 | 5 $\times$ 5.4                        | 0.12         | 3.5   | 29                                      | UWJ1V100MCL1GB |
|                                | 22                                 | 6.3 $\times$ 5.4                      | 0.12         | 7.7   | 45                                      | UWJ1V220MCL1GB |
| 50<br>(1H)                     | 1                                  | 4 $\times$ 5.4                        | 0.12         | 3   | 8.4                                     | UWJ1H010MCL1GB |
|                                | 2.2                                | 4 $\times$ 5.4                        | 0.12         | 3   | 13                                      | UWJ1H2R2MCL1GB |
|                                | 3.3                                | 4 $\times$ 5.4                        | 0.12         | 3   | 17                                      | UWJ1H3R3MCL1GB |
|                                | 4.7                                | 5 $\times$ 5.4                        | 0.12         | 3   | 20                                      | UWJ1H4R7MCL1GB |
|                                | 10                                 | 6.3 $\times$ 5.4                      | 0.12         | 5   | 33                                      | UWJ1H100MCL1GB |

- Taping specifications are given in page 20.
- Recommended land size, soldering by reflow are given in page 16, 17.
- Please refer to page 3 for the minimum order quantity.