

# ALUMINUM ELECTROLYTIC CAPACITORS

# UWH

Chip Type, High Reliability  
High Temperature (260°C) Reflow



For SMD



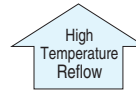
Long Life



Anti-Solvent Feature



# UWH



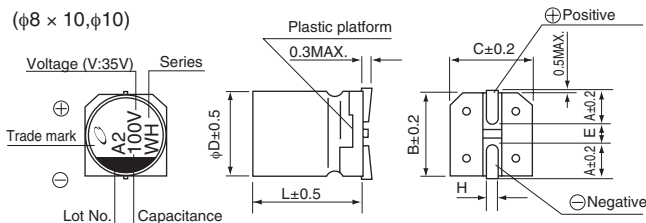
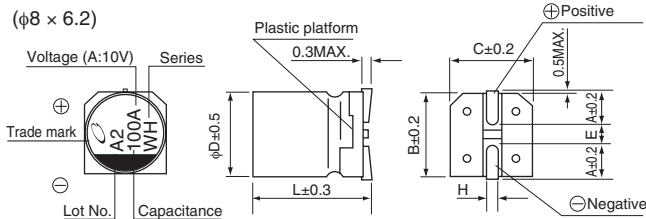
UUB

- Corresponding with 260°C peak reflow soldering  
Recommended reflow condition : 260°C peak 5 sec. 230°C over 60 sec. 2 times (φ8 × 6.2, φ10 × 10 : 1 time)
- Chip type high temperature range, for +125°C use.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

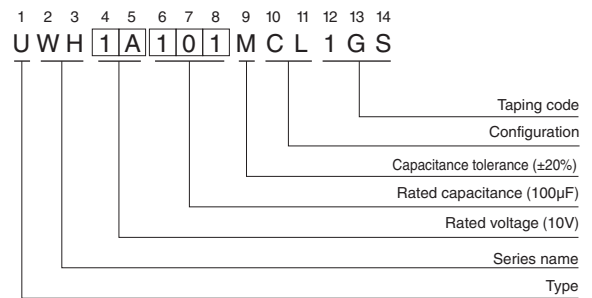
## Specifications

| Item                          | Performance Characteristics   |   |      |      |      |      |
|-------------------------------|---|---|------|------|------|------|
| Category Temperature Range    | -40 to +125°C   |   |      |      |      |      |
| Rated Voltage Range           | 10 to 50V   |   |      |      |      |      |
| Rated Capacitance Range       | 10 to 330μF   |   |      |      |      |      |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |   |      |      |      |      |
| Leakage Current               | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4(μA) , whichever is greater.   |   |      |      |      |      |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C   |   |      |      |      |      |
|                               | Rated voltage (V)   | 10  | 16   | 25   | 35   | 50   |
|                               | tan δ (MAX.)  | 0.32  | 0.24 | 0.21 | 0.18 | 0.18 |
| Stability at Low Temperature  | Measurement frequency : 120Hz   |   |      |      |      |      |
|                               | Rated voltage (V)   | 10  | 16   | 25   | 35   | 50   |
|                               | Impedance ratio ZT / Z20 (MAX.)   | Z-40°C / Z+20°C                                   | 12   | 8    | 6    | 4    |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 125°C.  |   |      |      |      |      |
|                               | Capacitance change  | Within ±30% of the initial capacitance value      |      |      |      |      |
|                               | tan δ   | 300% or less than the initial specified value     |      |      |      |      |
|                               | Leakage current   | Less than or equal to the initial specified value |      |      |      |      |
| Shelf Life                    | After storing the capacitors under no load at 125°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. |   |      |      |      |      |
| Resistance to soldering heat  | 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.               |   |      |      |      |      |
|                               | 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 : 10V 100μF)



|      | (mm)       |            |            |
|------|------------|------------|------------|
| φD×L | 8×6.2      | 8×10       | 10×10      |
| A    | 3.3        | 2.9        | 3.2        |
| B    | 8.3        | 8.3        | 10.3       |
| C    | 8.3        | 8.3        | 10.3       |
| E    | 2.3        | 3.1        | 4.5        |
| L    | 6.2        | 10         | 10         |
| H    | 0.5 to 0.8 | 0.8 to 1.1 | 0.8 to 1.1 |

## Voltage

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

## 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.

UWH

## ■ 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>1 minute) | Rated Ripple<br>(mArms)<br>(125°C/120Hz) | Part Number    |
|--------------------------------|------------------------------------|---------------------------------------|--------------|--|--|----------------|
| 10<br>(1A)                     | 100                                | 8 $\times$ 6.2                        | 0.32         | 30   | 58                                       | UWH1A101MCL1GS |
|                                | 220                                | 8 $\times$ 10                         | 0.32         | 66   | 90                                       | UWH1A221MCL1GS |
|                                | 330                                | 10 $\times$ 10                        | 0.32         | 99   | 112                                      | UWH1A331MCL1GS |
| 16<br>(1C)                     | 100                                | 8 $\times$ 10                         | 0.24         | 48   | 66                                       | UWH1C101MCL1GS |
|                                | 220                                | 10 $\times$ 10                        | 0.24         | 105.6  | 102                                      | UWH1C221MCL1GS |
| 25<br>(1E)                     | 47                                 | 8 $\times$ 6.2                        | 0.21         | 35.25  | 48                                       | UWH1E470MCL1GS |
|                                | 100                                | 8 $\times$ 10                         | 0.21         | 75   | 74                                       | UWH1E101MCL1GS |
|                                | 220                                | 10 $\times$ 10                        | 0.21         | 165  | 116                                      | UWH1E221MCL1GS |
| 35<br>(1V)                     | 33                                 | 8 $\times$ 6.2                        | 0.18         | 34.65  | 44                                       | UWH1V330MCL1GS |
|                                | 47                                 | 8 $\times$ 10                         | 0.18         | 49.35  | 52                                       | UWH1V470MCL1GS |
|                                | 100                                | 10 $\times$ 10                        | 0.18         | 105  | 80                                       | UWH1V101MCL1GS |
| 50<br>(1H)                     | 10                                 | 8 $\times$ 6.2                        | 0.18         | 15   | 24                                       | UWH1H100MCL1GS |
|                                | 22                                 | 8 $\times$ 6.2                        | 0.18         | 33   | 38                                       | UWH1H220MCL1GS |
|                                | 33                                 | 8 $\times$ 10                         | 0.18         | 49.5   | 46                                       | UWH1H330MCL1GS |
|                                | 47                                 | 10 $\times$ 10                        | 0.18         | 70.5   | 58                                       | UWH1H470MCL1GS |

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

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