# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

# UUP

6mmL Chip Type, Bi-Polarized

For SMD | Bi-polarized | Anti-Solvent Feature

- Chip type, bi-polarized withstanding high temperature range up to +105°C.
- Designed for surface mounting on high density PC board.
- 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.

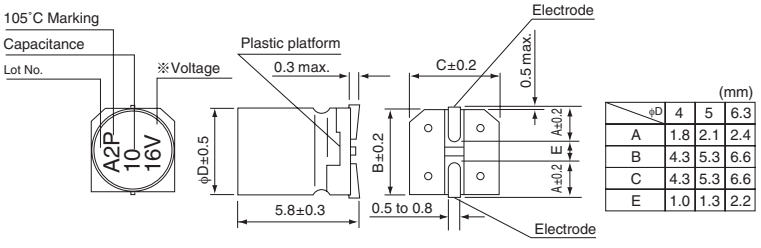
UUN ← Extended range — UUP — High Temperature → UWP

## ■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −55 to +105°C |
| Rated Voltage Range | 6.3 to 50V |
| Rated Capacitance Range | 0.1 to 47μF |
| 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 0.05 CV or 10 (μA), whichever is greater. |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C<br>Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50<br>tan δ (max.): 0.24 / 0.20 / 0.17 / 0.17 / 0.15 / 0.15 |
| Stability at Low Temperature | Measurement frequency : 120Hz<br>Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50<br>Impedance ratio ZT / Z20 (max.): Z(−25°C) / Z(+20°C): 4 / 3 / 2 / 2 / 2 / 2<br>Z(−40°C) / Z(+20°C): 8 / 6 / 4 / 4 / 3 / 3 |
| 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 105°C with the polarity every 250 hours.<br>Capacitance change: Within ±20% of the initial capacitance value<br>tan δ: 200% or less than the initial specified value<br>Leakage current: Less than or equal to the initial specified value |
| Shelf Life | After storing the capacitors under no load at 105°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.<br>Capacitance change: Within ±10% of the initial capacitance value<br>tan δ: Less than or equal to the initial specified value<br>Leakage current: Less than or equal to the initial specified value |
| Marking | Black print on the case top. |

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

## ■Chip Type




(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 |

※Voltage mark for 6.3V is「6V」

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U | U | P | 1 | C | 1 | 0 | 0 | M | C | L | 1 | G | S |

- 14: Taping code
- 12 13: Configuration
- 9: Capacitance tolerance (±20%)
- 6 7 8: Rated capacitance (10μF)
- 4 5: Rated voltage (16V)
- 3: Series name
- 1 2: Type

## ● 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.

# UUP

■Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L(mm) | tan δ | Leakage Current (μA) (at 20℃ after 2 minutes) | Rated Ripple (mArms) (105℃/120Hz) | Part Number |
|---|---|---|---|---|---|---|
| 6.3 (0J) | 22 | 5×5.8 | 0.24 | 10 | 28 | UUP0J220MCL1GS |
| | 33 | 6.3×5.8 | 0.24 | 10.395 | 37 | UUP0J330MCL1GS |
| | 47 | 6.3×5.8 | 0.24 | 14.805 | 45 | UUP0J470MCL1GS |
| 10 (1A) | 10 | 4×5.8 | 0.20 | 10 | 17 | UUP1A100MCL1GS |
| | 22 | 6.3×5.8 | 0.20 | 11 | 33 | UUP1A220MCL1GS |
| | 33 | 6.3×5.8 | 0.20 | 16.5 | 41 | UUP1A330MCL1GS |
| 16 (1C) | 4.7 | 4×5.8 | 0.17 | 10 | 12 | UUP1C4R7MCL1GS |
| | 10 | 5×5.8 | 0.17 | 10 | 23 | UUP1C100MCL1GS |
| | 22 | 6.3×5.8 | 0.17 | 17.6 | 37 | UUP1C220MCL1GS |
| | 33 | 6.3×5.8 | 0.17 | 26.4 | 49 | UUP1C330MCL1GS |
| 25 (1E) | 3.3 | 5×5.8 | 0.17 | 10 | 12 | UUP1E3R3MCL1GS |
| | 4.7 | 5×5.8 | 0.17 | 10 | 16 | UUP1E4R7MCL1GS |
| | 10 | 6.3×5.8 | 0.17 | 12.5 | 27 | UUP1E100MCL1GS |
| 35 (1V) | 2.2 | 4×5.8 | 0.15 | 10 | 8.4 | UUP1V2R2MCL1GS |
| | 3.3 | 5×5.8 | 0.15 | 10 | 16 | UUP1V3R3MCL1GS |
| | 4.7 | 5×5.8 | 0.15 | 10 | 18 | UUP1V4R7MCL1GS |
| | 10 | 6.3×5.8 | 0.15 | 17.5 | 29 | UUP1V100MCL1GS |
| 50 (1H) | 0.1 | 4×5.8 | 0.15 | 10 | 1.0 | UUP1H0R1MCL1GS |
| | 0.22 | 4×5.8 | 0.15 | 10 | 2.0 | UUP1HR22MCL1GS |
| | 0.33 | 4×5.8 | 0.15 | 10 | 2.8 | UUP1HR33MCL1GS |
| | 0.47 | 4×5.8 | 0.15 | 10 | 4.0 | UUP1HR47MCL1GS |
| | 1 | 4×5.8 | 0.15 | 10 | 8.4 | UUP1H010MCL1GS |
| | 2.2 | 5×5.8 | 0.15 | 10 | 13 | UUP1H2R2MCL1GS |
| | 3.3 | 5×5.8 | 0.15 | 10 | 17 | UUP1H3R3MCL1GS |
| | 4.7 | 6.3×5.8 | 0.15 | 11.75 | 20 | UUP1H4R7MCL1GS |

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.
- Please select UUN if high C/V products are required.