



# THE DATASHEET OF UUA1H3R3MCL1GS



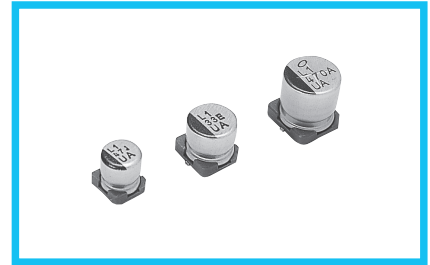
# ALUMINUM ELECTROLYTIC CAPACITORS

# UUA

6mmL Chip Type, Long Life Assurance



- Chip type with load life of 3000 to 5000 hours at +105°C.
- Designed for surface mounting on high density PC board.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

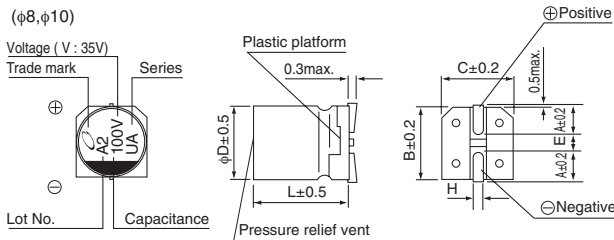
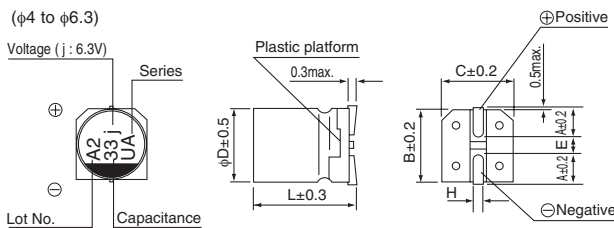


## Specifications

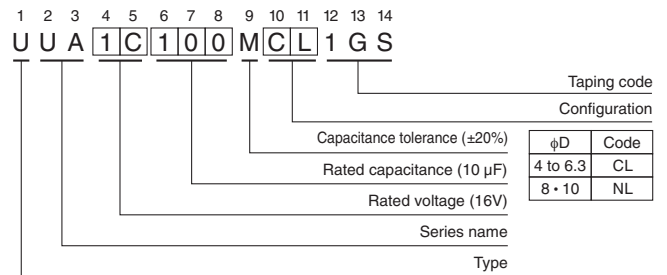
| Item                          | Performance Characteristics                                                                                                                                                                                                             |                                                   |      |      |      |      |      |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|------|------|------|------|
| Category Temperature Range    | -55 to +105°C                                                                                                                                                                                                                           |                                                   |      |      |      |      |      |
| Rated Voltage Range           | 6.3 to 50V                                                                                                                                                                                                                              |                                                   |      |      |      |      |      |
| Rated Capacitance Range       | 1 to 1000μF                                                                                                                                                                                                                             |                                                   |      |      |      |      |      |
| 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 0.01 CV or 3 (μA), whichever is greater.                                                                                                        |                                                   |      |      |      |      |      |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C                                                                                                                                                                                                   |                                                   |      |      |      |      |      |
|                               | Rated voltage (V)                                                                                                                                                                                                                       | 6.3                                               | 10   | 16   | 25   | 35   | 50   |
|                               | tan δ (max.)                                                                                                                                                                                                                            | 0.28                                              | 0.24 | 0.20 | 0.16 | 0.13 | 0.12 |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                                           |                                                   |      |      |      |      |      |
|                               | Rated voltage (V)                                                                                                                                                                                                                       | 6.3                                               | 10   | 16   | 25   | 35   | 50   |
|                               | Impedance ratio Z(-25°C) / Z(+20°C)                                                                                                                                                                                                     | 4                                                 | 3    | 2    | 2    | 2    | 2    |
|                               | ZT / Z20 (max.)                                                                                                                                                                                                                         | Z(-55°C) / Z(+20°C)                               | 10   | 7    | 5    | 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 5000 hours (3000 hours for φD = 4, 5 and 6.3) at 105°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 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.               |                                                   |      |      |      |      |      |
|                               | 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.                                                                                                                                                                                                            |                                                   |      |      |      |      |      |

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

## Chip Type



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



## Voltage

| V    | 6.3 | 10 | 16 | 25 | 35 | 50 |
|------|-----|----|----|----|----|----|
| Code | j   | 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.

UUA

## ■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | Rated Ripple (mArms) (105°C/120Hz) | Part Number     |
|--------------------------|------------------------|---------------------|-------|------------------------------------------------|------------------------------------|-----------------|
| 6.3 (0J)                 | 22                     | 4×5.8               | 0.28  | 3                                              | 22                                 | UUA0J220MCL1GS  |
|                          | 33                     | 5×5.8               | 0.28  | 3                                              | 35                                 | UUA0J330MCL1GS  |
|                          | 47                     | 5×5.8               | 0.28  | 3                                              | 38                                 | UUA0J470MCL1GS  |
|                          | 100                    | 6.3×5.8             | 0.28  | 6.3                                            | 69                                 | UUA0J101MCL1GS  |
|                          | 220                    | 6.3×7.7             | 0.28  | 13.86                                          | 120                                | UUA0J221MCL1GS  |
|                          | 330                    | 8×10                | 0.28  | 20.79                                          | 290                                | UUA0J331MNL1GS  |
|                          | 470                    | 10×10               | 0.28  | 29.61                                          | 320                                | UUA0J471MNL1GS  |
| 10 (1A)                  | 1000                   | 10×10               | 0.28  | 63                                             | 410                                | UUA0J102MNL1GS  |
|                          | 22                     | 5×5.8               | 0.24  | 3                                              | 30                                 | UUA1A220MCL1GS  |
|                          | 33                     | 5×5.8               | 0.24  | 3.3                                            | 35                                 | UUA1A330MCL1GS  |
|                          | 47                     | 6.3×5.8             | 0.24  | 4.7                                            | 50                                 | UUA1A470MCL1GS  |
|                          | 100                    | 6.3×7.7             | 0.24  | 10                                             | 81                                 | UUA1A101MCL1GS  |
|                          | 220                    | 8×10                | 0.24  | 22                                             | 141                                | UUA1A221MNL1GS  |
|                          | 330                    | 10×10               | 0.24  | 33                                             | 290                                | UUA1A331MNL1GS  |
| 16 (1C)                  | 470                    | 10×10               | 0.24  | 47                                             | 320                                | UUA1A471MNL1GS  |
|                          | 10                     | 4×5.8               | 0.20  | 3                                              | 18                                 | UUA1C100MCL1GS  |
|                          | 22                     | 5×5.8               | 0.20  | 3.52                                           | 30                                 | UUA1C220MCL1GS  |
|                          | 33                     | 6.3×5.8             | 0.20  | 5.28                                           | 48                                 | UUA1C330MCL1GS  |
|                          | 47                     | 6.3×5.8             | 0.20  | 7.52                                           | 50                                 | UUA1C470MCL1GS  |
|                          | 100                    | 6.3×7.7             | 0.20  | 16                                             | 81                                 | UUA1C101MCL1GS  |
|                          | 220                    | 10×10               | 0.20  | 35.2                                           | 216                                | UUA1C221MNL1GS  |
| 25 (1E)                  | 330                    | 10×10               | 0.20  | 52.8                                           | 290                                | UUA1C331MNL1GS  |
|                          | 470                    | 10×10               | 0.20  | 75.2                                           | 320                                | UUA1C471MNL1GS  |
|                          | 10                     | 5×5.8               | 0.16  | 3                                              | 27                                 | UUA1E100MCL1GS  |
|                          | 22                     | 6.3×5.8             | 0.16  | 5.5                                            | 44                                 | UUA1E220MCL1GS  |
|                          | 33                     | 6.3×5.8             | 0.16  | 8.25                                           | 50                                 | UUA1E330MCL1GS  |
|                          | 47                     | 6.3×7.7             | 0.16  | 11.75                                          | 63                                 | UUA1E470MCL1GS  |
| 35 (1V)                  | 100                    | 8×10                | 0.16  | 25                                             | 116                                | UUA1E101MNL1GS  |
|                          | 220                    | 10×10               | 0.16  | 55                                             | 320                                | UUA1E221MNL1GS  |
|                          | 330                    | 10×10               | 0.16  | 82.5                                           | 450                                | UUA1E331MNL1GS  |
|                          | 4.7                    | 4×5.8               | 0.13  | 3                                              | 16                                 | UUA1V47R7MCL1GS |
|                          | 10                     | 5×5.8               | 0.13  | 3.5                                            | 27                                 | UUA1V100MCL1GS  |
|                          | 22                     | 6.3×5.8             | 0.13  | 7.7                                            | 44                                 | UUA1V220MCL1GS  |
|                          | 33                     | 6.3×7.7             | 0.13  | 11.55                                          | 57                                 | UUA1V330MCL1GS  |
| 50 (1H)                  | 47                     | 8×10                | 0.13  | 16.45                                          | 92                                 | UUA1V470MNL1GS  |
|                          | 100                    | 10×10               | 0.13  | 35                                             | 151                                | UUA1V101MNL1GS  |
|                          | 220                    | 10×10               | 0.13  | 77                                             | 375                                | UUA1V221MNL1GS  |
|                          | 1                      | 4×5.8               | 0.12  | 3                                              | 8                                  | UUA1H010MCL1GS  |
|                          | 2.2                    | 4×5.8               | 0.12  | 3                                              | 12                                 | UUA1H2R2MCL1GS  |
|                          | 3.3                    | 4×5.8               | 0.12  | 3                                              | 17                                 | UUA1H3R3MCL1GS  |
|                          | 4.7                    | 5×5.8               | 0.12  | 3                                              | 22                                 | UUA1H4R7MCL1GS  |
| 50 (1H)                  | 10                     | 6.3×5.8             | 0.12  | 5                                              | 32                                 | UUA1H100MCL1GS  |
|                          | 22                     | 6.3×7.7             | 0.12  | 11                                             | 58                                 | UUA1H220MCL1GS  |
|                          | 33                     | 8×10                | 0.12  | 16.5                                           | 140                                | UUA1H330MNL1GS  |
|                          | 47                     | 8×10                | 0.12  | 23.5                                           | 170                                | UUA1H470MNL1GS  |
|                          | 100                    | 10×10               | 0.12  | 50                                             | 310                                | UUA1H101MNL1GS  |

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

## Looking for pricing, stock, or lifecycle information?

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