

# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

**ULV**

Chip Type, High Voltage.  
Long Life.



- Chip Type, high voltage and long life.
- Load life of 10000 hours at +105°C
- Applicable to automatic mounting machine using carrier tape.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

**ULV** Long Life **ULR**



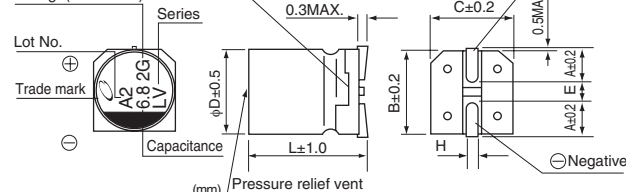
## Specifications

| Item                          | Performance Characteristics           |                                                   |
|-------------------------------|---------------------------------------|---------------------------------------------------|
| Category Temperature Range    | -40 to +105°C                         |                                                   |
| Rated Voltage Range           | 160 to 500V                           |                                                   |
| Rated Capacitance Range       | 1.8 to 33μF                           |                                                   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                   |                                                   |
| Leakage Current               | Rated voltage (V)                     | 160 to 450                                        |
|                               | —                                     | 0.04CV+100(μA)max.(1 minute's at 20°C)            |
| Tangent of loss angle (tan δ) | 500                                   | 0.04CV+200(μA)max.(1 minute's at 20°C)            |
|                               | Measurement frequency : 120Hz at 20°C |                                                   |
| Stability at Low Temperature  | Rated voltage (V)                     | 160 200 250 400 450 500                           |
|                               | tan δ (MAX.)                          | 0.20 0.20 0.25 0.25 0.30 0.30                     |
| Endurance                     | Rated voltage (V)                     | 160 200 250 400 450 500                           |
|                               | Impedance ratio ZT / Z20 (MAX.)       | Z-40°C / Z+20°C 6 6 10 10 15 15                   |
| Shelf Life                    | Capacitance change                    | Within ±30% of the initial capacitance value      |
|                               | tan δ                                 | 300% or less than the initial specified value     |
| Resistance to soldering heat  | 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

(φ8, φ10)

Voltage(2G : 400V)

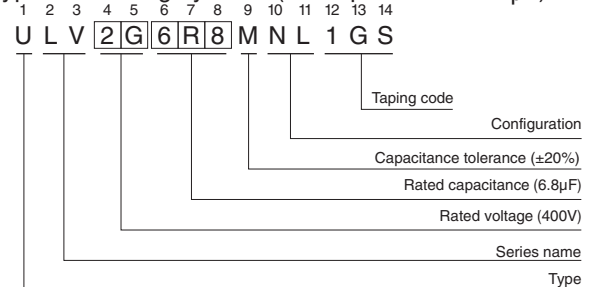


| Series | 8 × 10     | 10 × 10    | 10 × 13.5  |
|--------|------------|------------|------------|
| A      | 2.9        | 3.2        | 3.2        |
| B      | 8.3        | 10.3       | 10.3       |
| C      | 8.3        | 10.3       | 10.3       |
| E      | 3.1        | 4.5        | 4.5        |
| L      | 10         | 10         | 13.5       |
| H      | 0.8 to 1.1 | 0.8 to 1.1 | 0.8 to 1.1 |

Voltage

| V    | 160 | 200 | 250 | 400 | 450 | 500 |
|------|-----|-----|-----|-----|-----|-----|
| Code | 2C  | 2D  | 2E  | 2G  | 2W  | 2H  |

Type numbering system (Example : 400V 6.8μF)



## Dimensions

| Cap.(μF) | V   | 160          | 200          | 250          | 400          | 450          | 500                                |
|----------|-----|--------------|--------------|--------------|--------------|--------------|------------------------------------|
| Code     | 2C  | 2D           | 2E           | 2G           | 2W           | 2H           |                                    |
| 1.8      | 1R8 |              |              |              |              |              | 8 × 10 25                          |
| 3.3      | 3R3 |              |              |              |              |              | 10 × 10 40                         |
| 3.9      | 3R9 |              |              |              | 8 × 10 35    | 8 × 10 25    |                                    |
| 4.7      | 4R7 |              |              |              |              |              | 10 × 13.5 45                       |
| 5.6      | 5R6 |              |              |              |              |              |                                    |
| 6.8      | 6R8 |              |              |              | 10 × 10 50   | 10 × 10 40   |                                    |
| 7.5      | 7R5 |              |              |              |              | 10 × 13.5 45 |                                    |
| 8.2      | 8R2 |              |              | 8 × 10 35    |              |              |                                    |
| 10       | 100 |              |              |              | 10 × 13.5 55 |              |                                    |
| 12       | 120 |              | 8 × 10 50    |              |              |              |                                    |
| 15       | 150 | 8 × 10 50    |              | 10 × 10 50   |              |              |                                    |
| 18       | 180 |              | 10 × 10 65   | 10 × 13.5 55 |              |              |                                    |
| 22       | 220 | 10 × 10 65   |              |              |              |              |                                    |
| 27       | 270 |              | 10 × 13.5 70 |              |              |              |                                    |
| 33       | 330 | 10 × 13.5 70 |              |              |              |              | Case size φD × L (mm) Rated ripple |

Rated ripple current (mAmps) at 105°C 120Hz

## Frequency coefficient of rated ripple current

| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10kHz or more |
|-------------|-------|--------|--------|-------|---------------|
| Coefficient | 0.80  | 1.00   | 1.25   | 1.40  | 1.60          |

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.

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