

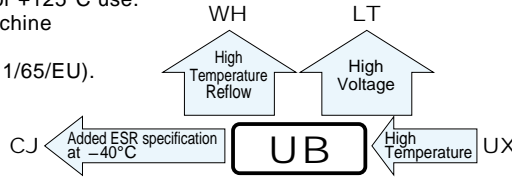
# ALUMINUM ELECTROLYTIC CAPACITORS



**UB** series Chip Type, High Reliability



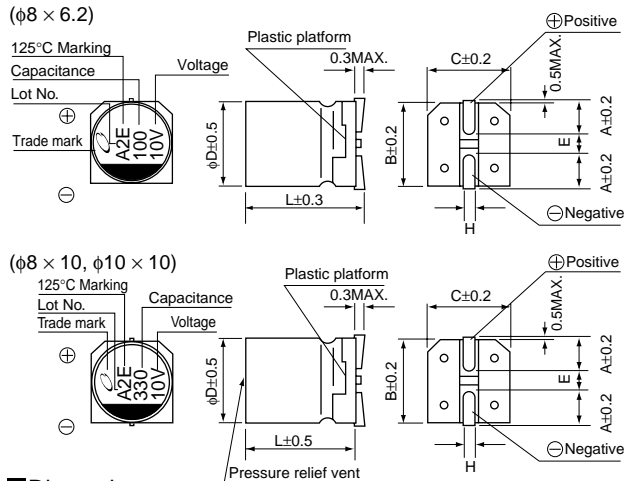
- Chip type, high temperature range, for +125°C use.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).



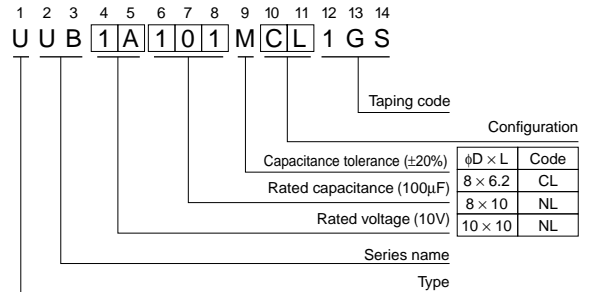
## Specifications

| Item                          | Performance Characteristics   |   |                    |  |    |       |   |     |                 |   |    |
|-------------------------------|---|---|--------------------|--|----|-------|---|-----|-----------------|---|----|
| Category Temperature Range    | -40 to +125°C   |   |                    |  |    |       |   |     |                 |   |    |
| Rated Voltage Range           | 10 to 400V  |   |                    |  |    |       |   |     |                 |   |    |
| Rated Capacitance Range       | 1 to 330μF  |   |                    |  |    |       |   |     |                 |   |    |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |   |                    |  |    |       |   |     |                 |   |    |
| Leakage Current               | Rated voltage (V)   | 10 to 50  |                    |  |    |       |   |     |                 |   |    |
|                               | Leakage Current   | After 1 minute's application of rated voltage, leakage current is not more than 0.03CV (μA). I = 0.04CV+100 (μA) max.(1 minute's) |                    |  |    |       |   |     |                 |   |    |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C   |   |                    |  |    |       |   |     |                 |   |    |
|                               | Rated voltage (V)   | 10  | 16                 | 25   | 35 | 50    | 160   | 200 | 250             | 400   |    |
| Stability at Low Temperature  | Measurement frequency : 120Hz   |   |                    |  |    |       |   |     |                 |   |    |
|                               | Rated voltage (V)   | 10  | 16                 | 25   | 35 | 50    | 160   | 200 | 250             | 400   |    |
| Endurance                     | Impedance ratio ZT / Z20 (MAX.)   | Z-40°C / Z+20°C   | 12                 | 8  | 6  | 4     | 4   | 8   | 8               | 8   | 12 |
|                               | 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 (1000 hours for φ8 × 6.2) 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. |   |                    |  |    |       |   |     |                 |   |    |
|                               | 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)



## Dimensions

| Cap.(μF) | Code | 10      |     | 16      |     | 25      |         | 35      |         | 50                    |              |
|----------|------|---------|-----|---------|-----|---------|---------|---------|---------|-----------------------|--------------|
|          |      | V       | 1A  | V       | 1C  | V       | 1E      | V       | 1V      | V                     | 1H           |
| 10       | 100  |         |     |         |     |         |         |         |         | 8 × 6.2               | 24           |
| 22       | 220  |         |     |         |     |         |         |         |         | 8 × 6.2               | 38           |
| 33       | 330  |         |     |         |     |         |         | 8 × 6.2 | 44      | 8 × 10                | 46           |
| 47       | 470  |         |     |         |     |         | 8 × 6.2 | 52      | 10 × 10 | 58                    |              |
| 100      | 101  | 8 × 6.2 | 58  | 8 × 10  | 66  | 8 × 10  | 74      | 10 × 10 | 80      |                       |              |
| 220      | 221  | 8 × 10  | 90  | 10 × 10 | 102 | 10 × 10 | 116     |         |         | Case size φD × L (mm) | Rated ripple |
| 330      | 331  | 10 × 10 | 112 |         |     |         |         |         |         |                       |              |

| Cap.(μF) | Code | 160     |    | 200     |    | 250     |    | 400                   |              |
|----------|------|---------|----|---------|----|---------|----|-----------------------|--------------|
|          |      | V       | 2C | V       | 2D | V       | 2E | V                     | 2G           |
| 1        | 010  |         |    |         |    |         |    | 8 × 10                | 26           |
| 1.8      | 1R8  |         |    |         |    |         |    | 8 × 10                | 27           |
| 2.2      | 2R2  |         |    |         |    |         |    | 10 × 10               | 36           |
| 3.3      | 3R3  |         |    |         |    | 8 × 10  | 28 | 10 × 10               | 38           |
| 4.7      | 4R7  |         |    | 8 × 10  | 36 | 10 × 10 | 59 |                       |              |
| 6.8      | 6R8  | 8 × 10  | 42 | 10 × 10 | 59 |         |    | Case size φD × L (mm) | Rated ripple |
| 10       | 100  | 10 × 10 | 59 | 10 × 10 | 59 |         |    |                       |              |

Rated ripple current (mArms) at 125°C 120Hz

## Frequency coefficient of rated ripple current

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

- 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.