

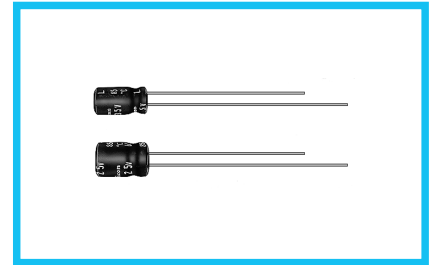
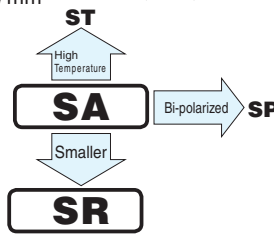
# ALUMINUM ELECTROLYTIC CAPACITORS

**SA** 7mmL, For General Purposes  
series

- Standard miniature series with 7mm height.
- Compliant to the RoHS directive (2011/65/EU).

**SR** 7mmL, High CV  
series

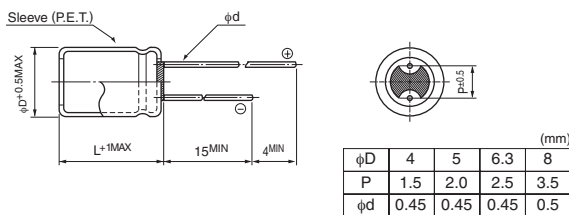
- Higher CV series with 7mm height.



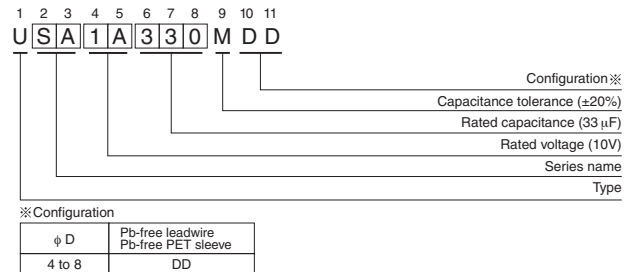
## Specifications

| Item                          | SA series  | SR series                                     |     |    |    |    |    |    |
|-------------------------------|--|---|-----|----|----|----|----|----|
| Category Temperature Range    | -40 to +85°C   | -40 to +85°C                                  |     |    |    |    |    |    |
| Rated Voltage Range           | 6.3 to 50V   | 4 to 50V                                      |     |    |    |    |    |    |
| Rated Capacitance Range       | 0.1 to 220μF   | 0.1 to 470μF                                  |     |    |    |    |    |    |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C  | 0.1 to 470μF                                  |     |    |    |    |    |    |
| Leakage Current               | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (μA), whichever is greater.  |   |     |    |    |    |    |    |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C  |   |     |    |    |    |    |    |
|                               | Rated voltage (V)  | 4   | 6.3 | 10 | 16 | 25 | 35 | 50 |
| Stability at Low Temperature  | Measurement frequency : 120Hz  |   |     |    |    |    |    |    |
|                               | Rated voltage (V)  | 4   | 6.3 | 10 | 16 | 25 | 35 | 50 |
|                               | Impedance ratio  | Z-25°C / Z+20°C                               | 6   | 4  | 3  | 2  | 2  | 2  |
| Endurance                     | 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 at 85°C.  |   |     |    |    |    |    |    |
|                               | Capacitance change   | Within ±20% of the initial capacitance value  |     |    |    |    |    |    |
| Shelf Life                    | After storing the capacitors under no load at 85°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. |   |     |    |    |    |    |    |
|                               | tan δ  | 200% or less than the initial specified value |     |    |    |    |    |    |
| Marking                       | Printed with white color letter on black sleeve.   |   |     |    |    |    |    |    |

## Radial Lead Type



## Type numbering system (Example : SA series : 10V 33μF)



## Dimensions

| Cap.(μF) | V(Code)<br>Series<br>Code | 4 (0G) |    | 6.3 (0J) |    | 10 (1A) |    | 16 (1C) |    | 25 (1E) |    | 35 (1V) |    | 50 (1H) |         |
|----------|---------------------------|--------|----|----------|----|---------|----|---------|----|---------|----|---------|----|---------|---------|
|          |                           | SR     | SA | SR       | SA | SR      | SA | SR      | SA | SR      | SA | SR      | SA | SR      |         |
| 0.1      | 0R1                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 0.22     | R22                       |        |    |          |    |         |    |         |    |         |    |         |    | 1.0     | 1.0     |
| 0.33     | R33                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 0.47     | R47                       |        |    |          |    |         |    |         |    |         |    |         |    | 2.3     | 2.3     |
| 1        | 010                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 2.2      | 2R2                       |        |    |          |    |         |    |         |    |         |    |         |    | 3.5     | 3.5     |
| 3.3      | 3R3                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 4.7      | 4R7                       |        |    |          |    |         |    |         |    |         |    |         |    | 5.0     | 5.0     |
| 10       | 100                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 22       | 220                       |        |    |          |    |         |    |         |    |         |    |         |    | 10      | 10      |
| 33       | 330                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 47       | 470                       |        |    |          |    |         |    |         |    |         |    |         |    | 19      | 19      |
| 100      | 101                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 220      | 221                       |        |    |          |    |         |    |         |    |         |    |         |    | 24      | 24      |
| 330      | 331                       |        |    |          |    |         |    |         |    |         |    |         |    | 4 × 7   | 4 × 7   |
| 470      | 471                       |        |    |          |    |         |    |         |    |         |    |         |    | 24      | 24      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 5 × 7   | 4 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 29      | 28      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 6.3 × 7 | 5 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 44      | 38      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 6.3 × 7 | 6.3 × 7 |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 65      | 58      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 8 × 7   | 8 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 75      | 75      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 8 × 7   | 8 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 85      | 85      |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 8 × 7   | 8 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 115     | 115     |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 8 × 7   | 8 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 150     | 150     |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 8 × 7   | 8 × 7   |
|          |                           |        |    |          |    |         |    |         |    |         |    |         |    | 240     | 240     |

## 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           |

Rated ripple current (mA rms) at 85°C 120Hz

Please refer to page 20, 21, 22 about the formed or taped product spec. Please refer to page 4 for the minimum order quantity.

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