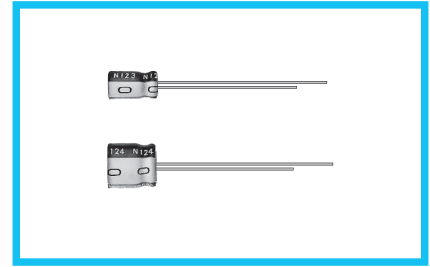


## USF 7mmL, Low Impedance



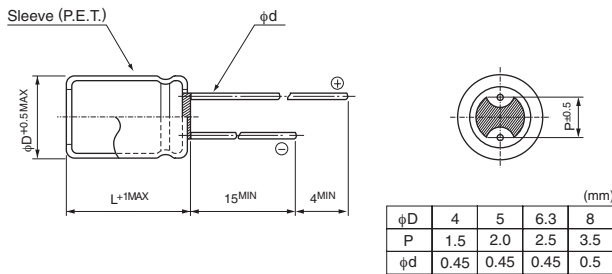
- Low impedance over wide temperature range of -55 to +105°C, with 7mm height.
- Compliant to the RoHS directive (2011/65/EU).



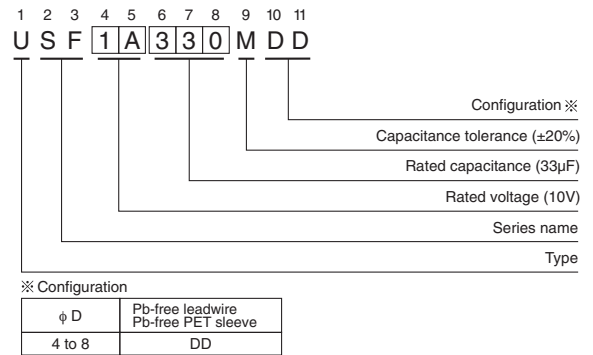
### Specifications

| Item                          | Performance Characteristics   |                 |                    |      |      |      |   |
|-------------------------------|---|-----------------|--------------------|------|------|------|---|
| Category Temperature Range    | -55 to +105°C   |                 |                    |      |      |      |   |
| Rated Voltage Range           | 6.3 to 35V  |                 |                    |      |      |      |   |
| Rated Capacitance Range       | 6.8 to 220μF  |                 |                    |      |      |      |   |
| 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 0.01CV or 3(μA), whichever is greater.  |                 |                    |      |      |      |   |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz, Temperature : 20°C   |                 |                    |      |      |      |   |
|                               | Rated voltage (V)   | 6.3             | 10                 | 16   | 25   | 35   |   |
|                               | tan δ (MAX.)  | 0.18            | 0.16               | 0.14 | 0.12 | 0.12 |   |
| Stability at Low Temperature  | Measurement frequency : 120Hz   |                 |                    |      |      |      |   |
|                               | Rated voltage (V)   | 6.3             | 10                 | 16   | 25   | 35   |   |
|                               | Impedance ratio<br>ZT / Z20 (MAX.)  | Z-25°C / Z+20°C | 2                  | 2    | 2    | 2    | 2   |
|                               |   | Z-55°C / Z+20°C | 3                  | 3    | 3    | 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.  |                 | Capacitance change |      |      |      | Within ±20% of the initial capacitance value      |
|                               |   |                 | tan δ              |      |      |      | 200% or less than 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. |                 | Leakage current    |      |      |      | Less than or equal to the initial specified value |
|                               |   |                 |                    |      |      |      |   |
| Marking                       | Printed with white color letter on dark brown sleeve.   |                 |                    |      |      |      |   |

### Radial Lead Type



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



### Dimensions

| Cap.(μF) | Code | 6.3     |     |     | 10      |     |     | 16      |     |     | 25      |     |     | 35                       |                |                 |
|----------|------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|--------------------------|----------------|-----------------|
|          |      | 0J      |     |     | 1A      |     |     | 1C      |     |     | 1E      |     |     | 1V                       |                |                 |
| 6.8      | 6R8  |         |     |     |         |     |     |         |     |     |         |     |     | 4 × 7                    | 3.3            | 70              |
| 10       | 100  |         |     |     |         |     |     |         |     |     |         |     |     | 5 × 7                    | 1.7            | 110             |
| 15       | 150  |         |     |     |         |     |     | 4 × 7   | 3.3 | 70  | 4 × 7   | 3.3 | 70  | 6.3 × 7                  | 0.8            | 160             |
| 22       | 220  |         |     |     | 4 × 7   | 3.3 | 70  | 5 × 7   | 1.7 | 110 | 5 × 7   | 1.7 | 110 | 6.3 × 7                  | 0.8            | 160             |
| 33       | 330  | 5 × 7   | 1.7 | 110 | 5 × 7   | 1.7 | 110 | 6.3 × 7 | 0.8 | 160 | 6.3 × 7 | 0.8 | 160 | 8 × 7                    | 0.5            | 200             |
| 47       | 470  | 5 × 7   | 1.7 | 110 | 6.3 × 7 | 0.8 | 160 | 6.3 × 7 | 0.8 | 160 | 8 × 7   | 0.5 | 200 |                          |                |                 |
| 68       | 680  | 6.3 × 7 | 0.8 | 160 | 6.3 × 7 | 0.8 | 160 | 8 × 7   | 0.5 | 200 | 8 × 7   | 0.5 | 200 |                          |                |                 |
| 100      | 101  | 6.3 × 7 | 0.8 | 160 | 8 × 7   | 0.5 | 200 | 8 × 7   | 0.5 | 200 |         |     |     |                          |                |                 |
| 150      | 151  | 8 × 7   | 0.5 | 200 | 8 × 7   | 0.5 | 200 |         |     |     |         |     |     |                          |                |                 |
| 220      | 221  | 8 × 7   | 0.5 | 200 |         |     |     |         |     |     |         |     |     |                          |                |                 |
|          |      |         |     |     |         |     |     |         |     |     |         |     |     | Case size<br>φD × L (mm) | Impe-<br>dance | Rated<br>ripple |

Max. Impedance (Ω) at 20°C 100kHz  
 Rated ripple current (mArms) at 105°C 100kHz

### Frequency coefficient of rated ripple current

| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
|-------------|-------|--------|--------|-------|----------------|
| Coefficient | 0.35  | 0.50   | 0.64   | 0.83  | 1.00           |

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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