nichicon

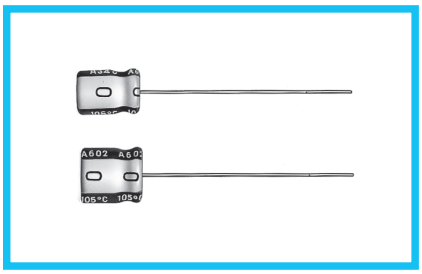
# USV

7mmL, Long Life Assurance

Long Life

- Extended load life of 5000 hours at +105˚C, with 7mm height.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

UST Long Life USV



## ■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −40 to +105˚C |
| Rated Voltage Range | 6.3 to 50V |
| Rated Capacitance Range | 1 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 | 50 |
|---|---|---|---|---|---|---|
| tan δ (MAX.) | 0.24 | 0.21 | 0.18 | 0.15 | 0.13 | 0.12 |

Stability at Low Temperature — Measurement frequency : 120Hz

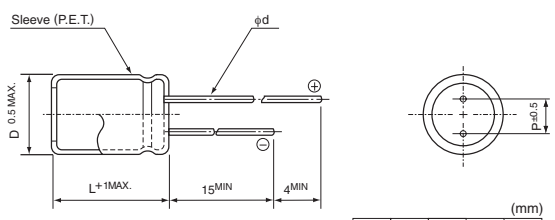
| Rated voltage (V) | | 6.3 | 10 | 16 | 25 | 35 | 50 |
|---|---|---|---|---|---|---|---|
| Impedance ratio (MAX.) | Z−25˚C / Z+20˚C | 4 | 3 | 2 | 2 | 2 | 2 |
| | Z−40˚C / Z+20˚C | 8 | 6 | 4 | 3 | 3 | 3 |

Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours 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 |

| Item | Performance Characteristics |
|---|---|
| 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. |
| Marking | Printed with silver color letter on dark brown sleeve. |

## ■Radial Lead Type




(mm)

| φD | 4 | 5 | 6.3 | 8 |
|---|---|---|---|---|
| P | 1.5 | 2.0 | 2.5 | 3.5 |
| φd | 0.45 | 0.45 | 0.45 | 0.5 |

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| U | S | V | 1 | A | 3 | 3 | 0 | M | F | D |

- Configuration ※
- Capacitance tolerance (±20%)
- Rated capacitance (33μF)
- Rated voltage (10V)
- Series name
- Type

※ Configuration

| φD | Pb-free leadwire<br>Pb-free PET sleeve |
|---|---|
| 4 to 8 | FD |

## ■Dimensions

| Cap.(μF) | Code | V: 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | |
| 1 | 010 | | | | | | | | | | | 4 × 7 | 10 |
| 2.2 | 2R2 | | | | | | | | | | | 4 × 7 | 19 |
| 3.3 | 3R3 | | | | | | | | | | | 4 × 7 | 24 |
| 4.7 | 4R7 | | | | | | | | | 4 × 7 | 24 | 5 × 7 | 29 |
| 10 | 100 | | | | | 4 × 7 | 29 | 5 × 7 | 33 | 5 × 7 | 36 | 6.3 × 7 | 44 |
| 22 | 220 | 4 × 7 | 34 | 5 × 7 | 38 | 5 × 7 | 44 | 6.3 × 7 | 51 | 6.3 × 7 | 57 | 8 × 7 | 65 |
| 33 | 330 | 5 × 7 | 42 | 5 × 7 | 47 | 6.3 × 7 | 57 | 6.3 × 7 | 63 | 8 × 7 | 72 | | |
| 47 | 470 | 5 × 7 | 50 | 6.3 × 7 | 59 | 6.3 × 7 | 68 | 8 × 7 | 78 | | | | |
| 100 | 101 | 6.3 × 7 | 77 | 8 × 7 | 96 | 8 × 7 | 107 | | | | | Case size φD × L (mm) | Rated ripple |
| 220 | 221 | 8 × 7 | 130 | | | | | | | | | | |

Rated ripple current (mArms) at 105˚C 120Hz

- 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 |

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