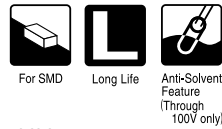


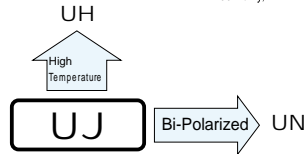
ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UJ series Chip Type, Higher Capacitance Range



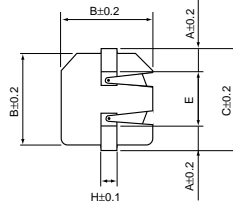
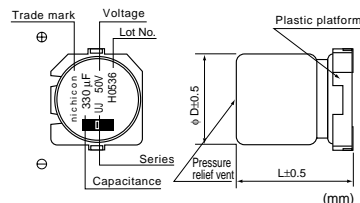
- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18, φ20)
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape and tray.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

| Item | Performance Characteristics | | | | | | | | | | | |
|---|---|---|------|------|------|------|------|------|------|------------|---|-------|
| Category Temperature Range | -55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 450V) | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 450V | | | | | | | | | | | |
| Rated Capacitance Range | 3.3 to 6800μF | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | |
| Leakage Current | Rated voltage (V) | 6.3 to 100 | | | | | | | | | 160 to 450 | |
| | — | After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. | | | | | | | | | I = 0.04CV + 100 (μA) max. (1 minute's) | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 to 250 | 400 • 450 | 120Hz |
| | tan δ (MAX) | 0.26 | 0.22 | 0.18 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.15 | 0.20 | 20°C |
| For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. | | | | | | | | | | | | |
| Stability at Low Temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 to 250 | 400 • 450 | 120Hz |
| | Impedance ratio | Z-25°C / Z+20°C | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| ZT / Z20 (MAX.) | Z-40°C / Z+20°C | 10 | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 6 | 10 | |
| 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 ±20% of initial value | | | | | | | | | | |
| | tan δ | 200% or less of initial specified value | | | | | | | | | | |
| Shelf Life | After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above. | | | | | | | | | | | |
| | Leakage current | Less than or equal to the initial specified value | | | | | | | | | | |
| Marking | Black print on the case top. | | | | | | | | | | | |

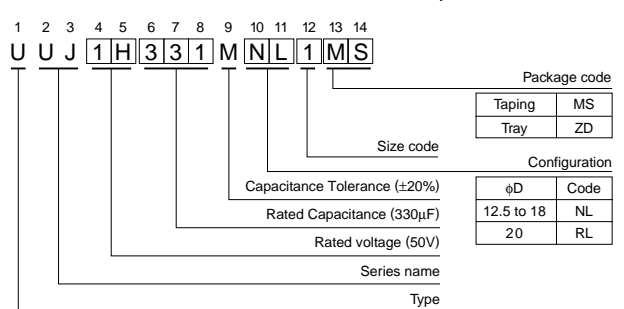
Chip Type



| | φD | 12.5 | 16 | 18 | 20 |
|---|------|------|------|------|----|
| A | 4.0 | 4.5 | 5.0 | 5.0 | |
| B | 13.6 | 17.1 | 19.1 | 21.1 | |
| C | 16.0 | 19.5 | 21.5 | 23.5 | |
| E | 8.0 | 10.5 | 11.5 | 13.5 | |
| H | 2.5 | 3.75 | 3.75 | 3.75 | |

The lead terminal structure: The same bent lead type (refer to p.76) that is currently used on 10mm diameter and smaller parts, is also available upon request. In this case of the bent lead type, □ will be put at the 11th digit of type numbering system. Please ask for details.

Type numbering system (Example : 50V 330μF)



Dimensions

| V (μF) Cap. | Code | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|-----|-------------|-----|
| | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | |
| 220 | 221 | | | | | | | | | 12.5 × 13.5 | 280 | 12.5 × 16 | 320 |
| 330 | 331 | | | | | | | 12.5 × 13.5 | 320 | 12.5 × 16 | 360 | ● 16 × 16.5 | 440 |
| 470 | 471 | | | | | | | 12.5 × 16 | 400 | ● 16 × 16.5 | 490 | △ 18 × 16.5 | 550 |
| 1000 | 102 | 12.5 × 13.5 | 440 | 12.5 × 16 | 500 | ● 16 × 16.5 | 630 | △ 18 × 16.5 | 700 | △ 18 × 16.5 | 750 | 18 × 21.5 | 820 |
| 2200 | 222 | ● 16 × 16.5 | 750 | ● 16 × 16.5 | 810 | △ 18 × 16.5 | 930 | 18 × 21.5 | 1050 | | | | |
| 3300 | 332 | △ 18 × 16.5 | 930 | △ 18 × 16.5 | 1000 | 18 × 21.5 | 1150 | | | | | | |
| 4700 | 472 | ★ 18 × 21.5 | 1100 | 18 × 21.5 | 1200 | | | | | | | | |
| 6800 | 682 | 20 × 21.5 | 1350 | 20 × 21.5 | 1450 | | | | | | | | |

| V (μF) Cap. | Code | 63 | | 100 | | 160 | | 200 | | 250 | | 400 | | 450 | |
|-------------|------|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-----------|-----|-----------|-----|
| | | 1J | | 2A | | 2C | | 2D | | 2E | | 2G | | 2W | |
| 3.3 | 3R3 | | | | | | | | | 12.5 × 13.5 | 65 | 12.5 × 16 | 50 | 12.5 × 16 | 50 |
| 4.7 | 4R7 | | | | | | | | | 12.5 × 16 | 105 | 16 × 16.5 | 85 | 16 × 16.5 | 85 |
| 10 | 100 | | | | | | | 12.5 × 13.5 | 80 | 12.5 × 16 | 105 | 16 × 16.5 | 130 | 18 × 21.5 | 130 |
| 22 | 220 | | | | | | | 12.5 × 16 | 105 | ● 16 × 16.5 | 180 | 18 × 21.5 | 130 | 18 × 21.5 | 130 |
| 33 | 330 | | | | | 12.5 × 13.5 | 95 | ● 16 × 16.5 | 220 | △ 18 × 16.5 | 230 | 20 × 21.5 | 160 | 20 × 21.5 | 160 |
| 47 | 470 | | | 12.5 × 13.5 | 160 | ● 16 × 16.5 | 260 | △ 18 × 16.5 | 270 | ★ 18 × 21.5 | 280 | | | | |
| 68 | 680 | 12.5 × 13.5 | 175 | 12.5 × 16 | 205 | △ 18 × 16.5 | 320 | ★ 18 × 21.5 | 330 | 20 × 21.5 | 340 | | | | |
| 100 | 101 | 12.5 × 16 | 225 | ● 16 × 16.5 | 285 | ★ 16 × 21.5 | 380 | 20 × 21.5 | 410 | | | | | | |
| 220 | 221 | ● 16 × 16.5 | 385 | △ 18 × 16.5 | 440 | | | | | | | | | | |
| 330 | 331 | △ 18 × 16.5 | 490 | 20 × 21.5 | 500 | | | | | | | | | | |
| 470 | 471 | 18 × 21.5 | 590 | | | | | | | | | | | | |

Size φ12.5 × 21 is available for capacitors marked "●". Size φ16 × 21.5L is available for capacitors marked "△". Size φ20 × 16.5L is available for capacitors marked "★".
 ※ In this case, [6] will be put at 12th digit of type numbering system.

Rated Ripple (mArms) at 105°C 120Hz

Frequency coefficient of rated ripple current

| V | Cap. (μF) | Frequency | | | | |
|------------|--------------|-----------|-------|-------|------|---------------|
| | | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
| 6.3 to 100 | Less than 68 | 0.75 | 1.00 | 1.35 | 1.57 | 2.00 |
| | 100 to 470 | 0.80 | 1.00 | 1.23 | 1.34 | 1.50 |
| | 1000 to 6800 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |
| 160 to 450 | 3.3 to 100 | 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.

CAT.8100X