

ALUMINUM ELECTROLYTIC CAPACITORS

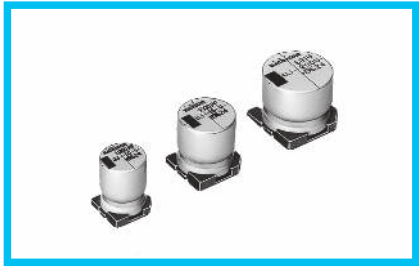
UUJ

Chip Type, Higher Capacitance Range



- Chip Type, higher capacitance in larger case sizes ($\phi 12.5$, $\phi 16$, $\phi 18$)
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

Valued marked with an ※ in the dimension table are scheduled to be discontinued and are not recommended for new designs.

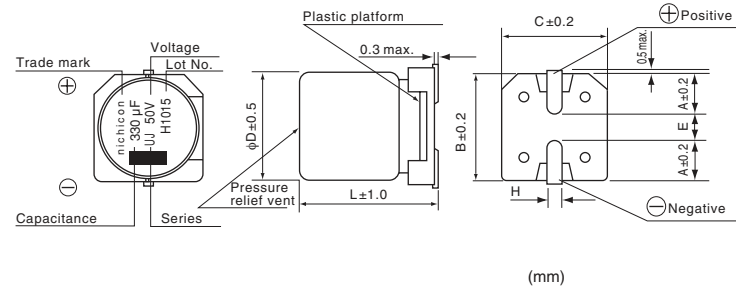


Specifications

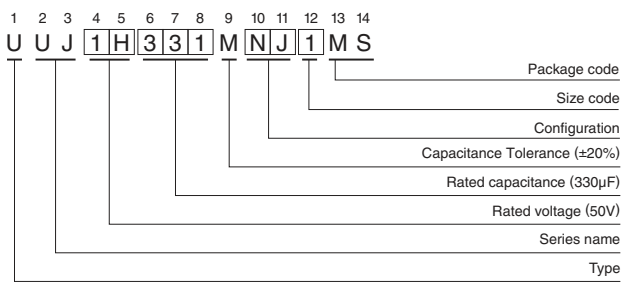
| Item | Performance Characteristics | | | | | | | | | | | |
|--|---|---|------|------|------|------|------|------|---|------------|-----------|---|
| Category Temperature Range | -55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 450V) | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 450V | | | | | | | | | | | |
| Rated Capacitance Range | 3.3 to 6800 μ F | | | | | | | | | | | |
| Capacitance Tolerance | $\pm 20\%$ at 120Hz, 20°C | | | | | | | | | | | |
| Leakage Current ※ | Rated voltage (V) | 6.3 to 100 | | | | | | | 160 to 450 | | | |
| | — | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μ A), whichever is greater. | | | | | | | I = 0.04CV+100 (μ A) max. (1 minute's at 20°C) | | | |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C | | | | | | | | | | | |
| | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 to 250 | 400 - 450 | |
| | tan δ (max.) | 0.26 | 0.22 | 0.18 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.15 | 0.20 | |
| For capacitance of more than 1000 μ F, add 0.02 for every increase of 1000 μ F. ($\phi 12.5$ to $\phi 18$) | | | | | | | | | | | | |
| Stability at Low Temperature | Measurement frequency: 120Hz | | | | | | | | | | | |
| | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 to 250 | 400 - 450 | |
| | Impedance ratio (max.) | Z(-25°C) / Z(+20°C) | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| 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 $\pm 20\%$ 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 | | | | | | | | | | | |
| Marking | Black print on the case top. | | | | | | | | | | | |

※ I : Leakage Current (μ A), C : Rated Capacitance (μ F), V : Rated Voltage (V)

Chip Type



Type numbering system (Example : 50V 330 μ F)



| ϕ D | 12.5x13.5 | 12.5x16 | 12.5x21 | 16x16.5 | 16x21.5 | 18x16.5 | 18x21.5 |
|----------|------------|------------|------------|------------|------------|------------|------------|
| A | 5.15 | 5.15 | 5.15 | 5.65 | 5.65 | 6.65 | 6.65 |
| B | 13.6 | 13.6 | 13.6 | 17.1 | 17.1 | 19.1 | 19.1 |
| C | 13.6 | 13.6 | 13.6 | 17.1 | 17.1 | 19.1 | 19.1 |
| E | (3.3) | (3.3) | (3.3) | (5.8) | (5.8) | (5.8) | (5.8) |
| L | 13.5 | 16.0 | 21.0 | 16.5 | 21.5 | 16.5 | 21.5 |
| H | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4 |

Please contact us for the dimensions for NQ.

| Code | Remarks |
|------|---|
| NJ | Standard Style |
| NQ | Products which are scheduled to be discontinued. Not recommended for new designs. |

※ There are also some products that can be manufactured as vibration resistant products.

Frequency coefficient of rated ripple current

| V | Cap. (μ F) | Frequency | | | | |
|------------|-----------------|-----------|-------|-------|------|---------------|
| | | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
| 6.3 to 100 | 47 to 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 |

● Dimension table in next page.

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■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | Rated Ripple (mArms) (105°C/120Hz) | Part Number |
|--------------------------|------------------------|---------------------|-----------|---|------------------------------------|-----------------|
| 6.3 (0J) | 1000 | 12.5×13.5 | 0.26 | 189 | 440 | ※UUJ0J102MNQ1MS |
| | 2200 | 16×16.5 | 0.28 | 415.8 | 750 | ※UUJ0J222MNQ1MS |
| | 2200 | 12.5×21 | 0.28 | 415.8 | 750 | ※UUJ0J222MNQ6MS |
| | 3300 | 18×16.5 | 0.30 | 623.7 | 930 | ※UUJ0J332MNQ1MS |
| | 3300 | 16×21.5 | 0.30 | 623.7 | 930 | ※UUJ0J332MNQ6MS |
| | 4700 | 18×21.5 | 0.32 | 888.3 | 1100 | ※UUJ0J472MNQ1MS |
| | 6800 | 18×21.5 | 0.36 | 1285.2 | 1350 | ※UUJ0J682MNQ6MS |
| 10 (1A) | 1000 | 12.5×16 | 0.22 | 300 | 500 | UUJ1A102MNJ1MS |
| | 2200 | 16×16.5 | 0.24 | 660 | 810 | UUJ1A222MNJ1MS |
| | 2200 | 12.5×21 | 0.24 | 660 | 810 | UUJ1A222MNJ6MS |
| | 3300 | 18×16.5 | 0.26 | 990 | 1000 | UUJ1A332MNJ1MS |
| | 3300 | 16×21.5 | 0.26 | 990 | 1000 | UUJ1A332MNJ6MS |
| | 4700 | 18×21.5 | 0.28 | 1410 | 1200 | UUJ1A472MNJ1MS |
| | 6800 | 18×21.5 | 0.32 | 2040 | 1450 | UUJ1A682MNJ6MS |
| 16 (1C) | 470 | 12.5×13.5 | 0.18 | 225.6 | 360 | UUJ1C471MNJ1MS |
| | 1000 | 16×16.5 | 0.18 | 480 | 630 | UUJ1C102MNJ1MS |
| | 1000 | 12.5×21 | 0.18 | 480 | 630 | UUJ1C102MNJ6MS |
| | 2200 | 18×16.5 | 0.20 | 1056 | 930 | UUJ1C222MNJ1MS |
| | 2200 | 16×21.5 | 0.20 | 1056 | 930 | UUJ1C222MNJ6MS |
| | 3300 | 18×21.5 | 0.22 | 1584 | 1150 | UUJ1C332MNJ1MS |
| | 25 (1E) | 330 | 12.5×13.5 | 0.16 | 247.5 | 320 |
| 470 | | 12.5×16 | 0.16 | 352.5 | 400 | UUJ1E471MNJ1MS |
| 1000 | | 18×16.5 | 0.16 | 750 | 700 | UUJ1E102MNJ1MS |
| 1000 | | 16×21.5 | 0.16 | 750 | 700 | UUJ1E102MNJ6MS |
| 2200 | | 18×21.5 | 0.18 | 1650 | 1050 | UUJ1E222MNJ1MS |
| 35 (1V) | | 220 | 12.5×13.5 | 0.14 | 231 | 280 |
| | 330 | 12.5×16 | 0.14 | 346.5 | 360 | UUJ1V331MNJ1MS |
| | 470 | 16×16.5 | 0.14 | 493.5 | 490 | UUJ1V471MNJ1MS |
| | 470 | 12.5×21 | 0.14 | 493.5 | 490 | UUJ1V471MNJ6MS |
| | 1000 | 18×16.5 | 0.14 | 1050 | 750 | UUJ1V102MNJ1MS |
| | 1000 | 16×21.5 | 0.14 | 1050 | 750 | UUJ1V102MNJ6MS |
| | 2200 | 18×21.5 | 0.16 | 2310 | 1150 | UUJ1V222MNJ6MS |
| | 50 (1H) | 220 | 12.5×16 | 0.12 | 330 | 320 |
| 330 | | 16×16.5 | 0.12 | 495 | 440 | UUJ1H331MNJ1MS |
| 330 | | 12.5×21 | 0.12 | 495 | 440 | UUJ1H331MNJ6MS |
| 470 | | 18×16.5 | 0.12 | 705 | 550 | UUJ1H471MNJ1MS |
| 470 | | 16×21.5 | 0.12 | 705 | 550 | UUJ1H471MNJ6MS |
| 1000 | | 18×21.5 | 0.12 | 1500 | 820 | UUJ1H102MNJ1MS |
| 63 (1J) | | 68 | 12.5×13.5 | 0.10 | 128.52 | 175 |
| | 100 | 12.5×16 | 0.10 | 189 | 225 | UUJ1J101MNJ1MS |
| | 220 | 16×16.5 | 0.10 | 415.8 | 385 | UUJ1J221MNJ1MS |
| | 220 | 12.5×21 | 0.10 | 415.8 | 385 | UUJ1J221MNJ6MS |
| | 330 | 18×16.5 | 0.10 | 623.7 | 490 | UUJ1J331MNJ1MS |
| | 330 | 16×21.5 | 0.10 | 623.7 | 490 | UUJ1J331MNJ6MS |
| | 470 | 18×21.5 | 0.10 | 888.3 | 590 | UUJ1J471MNJ1MS |



■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 1 minute) | Rated Ripple (mArms) (105°C/120Hz) | Part Number |
|--------------------------|------------------------|---------------------|-------|---|------------------------------------|----------------|
| 100 (2A) | 47 | 12.5×13.5 | 0.08 | 141 | 160 | UUJ2A470MNJ1MS |
| | 68 | 12.5×16 | 0.08 | 204 | 205 | UUJ2A680MNJ1MS |
| | 100 | 16×16.5 | 0.08 | 300 | 285 | UUJ2A101MNJ1MS |
| | 100 | 12.5×21 | 0.08 | 300 | 285 | UUJ2A101MNJ6MS |
| | 220 | 18×16.5 | 0.08 | 660 | 440 | UUJ2A221MNJ1MS |
| | 220 | 16×21.5 | 0.08 | 660 | 440 | UUJ2A221MNJ6MS |
| | 330 | 18×21.5 | 0.08 | 990 | 500 | UUJ2A331MNJ6MS |
| 160 (2C) | 33 | 12.5×13.5 | 0.15 | 311.2 | 95 | UUJ2C330MNJ1MS |
| | 47 | 16×16.5 | 0.15 | 400.8 | 260 | UUJ2C470MNJ1MS |
| | 47 | 12.5×21 | 0.15 | 400.8 | 260 | UUJ2C470MNJ6MS |
| | 68 | 18×16.5 | 0.15 | 535.2 | 320 | UUJ2C680MNJ1MS |
| | 68 | 16×21.5 | 0.15 | 535.2 | 320 | UUJ2C680MNJ6MS |
| | 100 | 16×21.5 | 0.15 | 740 | 380 | UUJ2C101MNJ1MS |
| 200 (2D) | 10 | 12.5×13.5 | 0.15 | 180 | 80 | UUJ2D100MNJ1MS |
| | 22 | 12.5×16 | 0.15 | 276 | 105 | UUJ2D220MNJ1MS |
| | 33 | 16×16.5 | 0.15 | 364 | 220 | UUJ2D330MNJ1MS |
| | 33 | 12.5×21 | 0.15 | 364 | 220 | UUJ2D330MNJ6MS |
| | 47 | 18×16.5 | 0.15 | 476 | 270 | UUJ2D470MNJ1MS |
| | 47 | 16×21.5 | 0.15 | 476 | 270 | UUJ2D470MNJ6MS |
| | 68 | 18×21.5 | 0.15 | 644 | 330 | UUJ2D680MNJ1MS |
| | 100 | 18×21.5 | 0.15 | 900 | 410 | UUJ2D101MNJ6MS |
| 250 (2E) | 4.7 | 12.5×13.5 | 0.15 | 147 | 65 | UUJ2E4R7MNJ1MS |
| | 10 | 12.5×16 | 0.15 | 200 | 105 | UUJ2E100MNJ1MS |
| | 22 | 16×16.5 | 0.15 | 320 | 180 | UUJ2E220MNJ1MS |
| | 22 | 12.5×21 | 0.15 | 320 | 180 | UUJ2E220MNJ6MS |
| | 33 | 18×16.5 | 0.15 | 430 | 230 | UUJ2E330MNJ1MS |
| | 33 | 16×21.5 | 0.15 | 430 | 230 | UUJ2E330MNJ6MS |
| | 47 | 18×21.5 | 0.15 | 570 | 280 | UUJ2E470MNJ1MS |
| | 68 | 18×21.5 | 0.15 | 780 | 340 | UUJ2E680MNJ6MS |
| 400 (2G) | 4.7 | 12.5×16 | 0.20 | 175.2 | 50 | UUJ2G4R7MNJ1MS |
| | 10 | 16×16.5 | 0.20 | 260 | 85 | UUJ2G100MNJ1MS |
| | 22 | 18×21.5 | 0.20 | 452 | 130 | UUJ2G220MNJ1MS |
| | 33 | 18×21.5 | 0.20 | 628 | 160 | UUJ2G330MNJ6MS |
| 450 (2W) | 3.3 | 12.5×13.5 | 0.20 | 159.4 | 40 | UUJ2W3R3MNJ1MS |
| | 4.7 | 12.5×16 | 0.20 | 184.6 | 50 | UUJ2W4R7MNJ1MS |
| | 10 | 16×16.5 | 0.20 | 280 | 85 | UUJ2W100MNJ1MS |
| | 22 | 18×21.5 | 0.20 | 496 | 130 | UUJ2W220MNJ1MS |
| | 33 | 18×21.5 | 0.20 | 694 | 160 | UUJ2W330MNJ6MS |

• For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.