

ALUMINUM ELECTROLYTIC CAPACITORS

UUG

Chip Type, Higher Capacitance Range

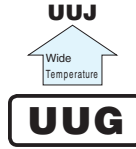


For SMD



Anti-Solvent Feature (Through 100V only)

- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18)
- 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.

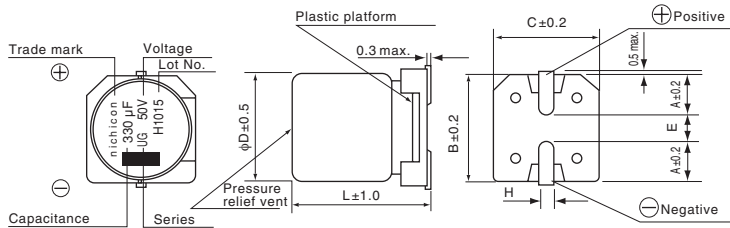


Specifications

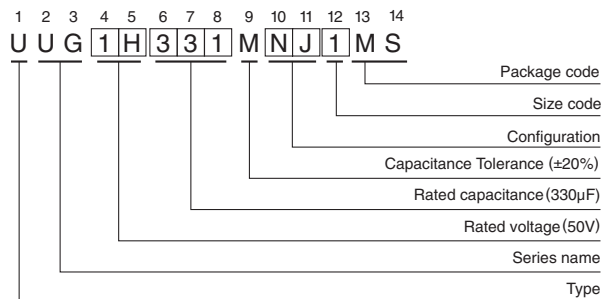
| Item | Performance Characteristics | | | | | | | | | | | | |
|--|--|---|------|------|------|------|------|------------|------|------------|-----------|---|--|
| Category Temperature Range | -40 to +85°C | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 450V | | | | | | | | | | | | |
| Rated Capacitance Range | 4.7 to 10000μF | | | | | | | | | | | | |
| 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 at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. | | | | | | | | | | | |
| 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.) | 0.28 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.20 | 0.25 | | |
| For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. (φ12.5 to φ18) | | | | | | | | | | | | | |
| 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 2000 hours at 85°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 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. | | | | | | | | | | | | |
| | Leakage current | | | | | | | | | | | | |
| Marking | Black print on the case top. | | | | | | | | | | | | |

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Chip Type



Type numbering system (Example : 50V 330μF)



| | (mm) | | | | | | |
|----|------------|------------|------------|------------|------------|------------|------------|
| φD | 12.5×13.5 | 12.5×16 | 12.5×21 | 16×16.5 | 16×21.5 | 18×16.5 | 18×21.5 |
| 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 | Frequency | | | | | |
|------------|---------------|------|-------|-------|------|---------------|
| | Cap.(μF) | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
| 6.3 to 100 | 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 10000 | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |
| 160 to 450 | 4.7 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) (85°C/120Hz) | Part Number |
|-----------------------------|------------------------|---------------------|-------|--|--------------------------------------|-----------------|
| 6.3 (0J) | 2200 | 12.5×16 | 0.30 | 415.8 | 890 | UUG0J222MNNJ1MS |
| | 3300 | 16×16.5 | 0.32 | 623.7 | 1200 | UUG0J332MNNJ1MS |
| | 3300 | 12.5×21 | 0.32 | 623.7 | 1200 | UUG0J332MNNJ6MS |
| | 4700 | 16×16.5 | 0.34 | 888.3 | 1400 | UUG0J472MNNJ1MS |
| | 6800 | 18×16.5 | 0.38 | 1285.2 | 1650 | UUG0J682MNNJ1MS |
| | 6800 | 16×21.5 | 0.38 | 1285.2 | 1650 | UUG0J682MNNJ6MS |
| | 10000 | 18×21.5 | 0.46 | 1890 | 2000 | UUG0J103MNNJ1MS |
| 10 (1A) | 1000 | 12.5×13.5 | 0.24 | 300 | 620 | UUG1A102MNNJ1MS |
| | 2200 | 12.5×16 | 0.26 | 660 | 960 | UUG1A222MNNJ1MS |
| | 3300 | 16×16.5 | 0.28 | 990 | 1300 | UUG1A332MNNJ1MS |
| | 4700 | 18×16.5 | 0.30 | 1410 | 1500 | UUG1A472MNNJ1MS |
| | 4700 | 16×21.5 | 0.30 | 1410 | 1500 | UUG1A472MNNJ6MS |
| | 6800 | 18×21.5 | 0.34 | 2040 | 1850 | UUG1A682MNNJ1MS |
| | 10000 | 18×21.5 | 0.42 | 3000 | 2200 | UUG1A103MNNJ6MS |
| 16 (1C) | 1000 | 12.5×13.5 | 0.20 | 480 | 710 | UUG1C102MNNJ1MS |
| | 2200 | 16×16.5 | 0.22 | 1056 | 1150 | UUG1C222MNNJ1MS |
| | 2200 | 12.5×21 | 0.22 | 1056 | 1150 | UUG1C222MNNJ6MS |
| | 3300 | 18×16.5 | 0.24 | 1584 | 1450 | UUG1C332MNNJ1MS |
| | 3300 | 16×21.5 | 0.24 | 1584 | 1450 | UUG1C332MNNJ6MS |
| | 4700 | 18×21.5 | 0.26 | 2256 | 1750 | UUG1C472MNNJ1MS |
| 25 (1E) | 470 | 12.5×13.5 | 0.16 | 352.5 | 550 | UUG1E471MNNJ1MS |
| | 1000 | 12.5×16 | 0.16 | 750 | 820 | UUG1E102MNNJ1MS |
| | 2200 | 18×16.5 | 0.18 | 1650 | 1350 | UUG1E222MNNJ1MS |
| | 2200 | 16×21.5 | 0.18 | 1650 | 1350 | UUG1E222MNNJ6MS |
| | 3300 | 18×21.5 | 0.20 | 2475 | 1700 | UUG1E332MNNJ1MS |
| 35 (1V) | 470 | 12.5×13.5 | 0.14 | 493.5 | 580 | UUG1V471MNNJ1MS |
| | 1000 | 16×16.5 | 0.14 | 1050 | 1000 | UUG1V102MNNJ1MS |
| | 1000 | 12.5×21 | 0.14 | 1050 | 1000 | UUG1V102MNNJ6MS |
| | 2200 | 18×21.5 | 0.16 | 2310 | 1550 | UUG1V222MNNJ1MS |
| 50 (1H) | 220 | 12.5×13.5 | 0.12 | 330 | 450 | UUG1H221MNNJ1MS |
| | 330 | 12.5×13.5 | 0.12 | 495 | 520 | UUG1H331MNNJ1MS |
| | 470 | 16×16.5 | 0.12 | 705 | 740 | UUG1H471MNNJ1MS |
| | 470 | 12.5×21 | 0.12 | 705 | 740 | UUG1H471MNNJ6MS |
| | 1000 | 18×21.5 | 0.12 | 1500 | 1150 | UUG1H102MNNJ1MS |
| 63 (1J) | 100 | 12.5×13.5 | 0.10 | 189 | 370 | UUG1J101MNNJ1MS |
| | 220 | 12.5×16 | 0.10 | 415.8 | 580 | UUG1J221MNNJ1MS |
| | 330 | 16×16.5 | 0.10 | 623.7 | 680 | UUG1J331MNNJ1MS |
| | 330 | 12.5×21 | 0.10 | 623.7 | 680 | UUG1J331MNNJ6MS |
| | 470 | 18×16.5 | 0.10 | 888.3 | 850 | UUG1J471MNNJ1MS |
| | 470 | 16×21.5 | 0.10 | 888.3 | 850 | UUG1J471MNNJ6MS |
| 100 (2A) | 68 | 12.5×13.5 | 0.08 | 204 | 350 | UUG2A680MNNJ1MS |
| | 100 | 12.5×16 | 0.08 | 300 | 440 | UUG2A101MNNJ1MS |
| | 220 | 18×16.5 | 0.08 | 660 | 665 | UUG2A221MNNJ1MS |
| | 220 | 16×21.5 | 0.08 | 660 | 665 | UUG2A221MNNJ6MS |
| | 330 | 18×21.5 | 0.08 | 990 | 825 | UUG2A331MNNJ1MS |

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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) (85°C/120Hz) | Part Number |
|-----------------------------|------------------------|---------------------|-------|--|--------------------------------------|----------------|
| 160 (2C) | 47 | 12.5×16 | 0.20 | 400.8 | 370 | UUG2C470MNJ1MS |
| | 68 | 16×16.5 | 0.20 | 535.2 | 500 | UUG2C680MNJ1MS |
| | 68 | 12.5×21 | 0.20 | 535.2 | 500 | UUG2C680MNJ6MS |
| | 100 | 18×16.5 | 0.20 | 740 | 590 | UUG2C101MNJ1MS |
| | 100 | 16×21.5 | 0.20 | 740 | 590 | UUG2C101MNJ6MS |
| 200 (2D) | 22 | 12.5×13.5 | 0.20 | 276 | 235 | UUG2D220MNJ1MS |
| | 33 | 12.5×16 | 0.20 | 364 | 310 | UUG2D330MNJ1MS |
| | 47 | 16×16.5 | 0.20 | 476 | 415 | UUG2D470MNJ1MS |
| | 47 | 12.5×21 | 0.20 | 476 | 415 | UUG2D470MNJ6MS |
| | 68 | 18×16.5 | 0.20 | 644 | 505 | UUG2D680MNJ1MS |
| | 68 | 16×21.5 | 0.20 | 644 | 505 | UUG2D680MNJ6MS |
| | 100 | 18×21.5 | 0.20 | 900 | 590 | UUG2D101MNJ1MS |
| 250 (2E) | 10 | 12.5×13.5 | 0.20 | 200 | 150 | UUG2E100MNJ1MS |
| | 22 | 12.5×16 | 0.20 | 320 | 240 | UUG2E220MNJ1MS |
| | 33 | 16×16.5 | 0.20 | 430 | 340 | UUG2E330MNJ1MS |
| | 33 | 12.5×21 | 0.20 | 430 | 340 | UUG2E330MNJ6MS |
| | 47 | 18×16.5 | 0.20 | 570 | 415 | UUG2E470MNJ1MS |
| | 47 | 16×21.5 | 0.20 | 570 | 415 | UUG2E470MNJ6MS |
| | 68 | 18×21.5 | 0.20 | 780 | 490 | UUG2E680MNJ1MS |
| 400 (2G) | 4.7 | 12.5×13.5 | 0.25 | 175.2 | 115 | UUG2G470MNJ1MS |
| | 10 | 16×16.5 | 0.25 | 260 | 140 | UUG2G100MNJ1MS |
| | 10 | 12.5×21 | 0.25 | 260 | 140 | UUG2G100MNJ6MS |
| | 22 | 18×16.5 | 0.25 | 452 | 280 | UUG2G220MNJ1MS |
| | 22 | 16×21.5 | 0.25 | 452 | 280 | UUG2G220MNJ6MS |
| | 33 | 18×21.5 | 0.25 | 628 | 350 | UUG2G330MNJ1MS |
| | 47 | 18×21.5 | 0.25 | 852 | 430 | UUG2G470MNJ6MS |
| 450 (2W) | 4.7 | 12.5×13.5 | 0.25 | 184.6 | 115 | UUG2W470MNJ1MS |
| | 10 | 16×16.5 | 0.25 | 280 | 140 | UUG2W100MNJ1MS |
| | 10 | 12.5×21 | 0.25 | 280 | 140 | UUG2W100MNJ6MS |
| | 22 | 16×21.5 | 0.25 | 496 | 275 | UUG2W220MNJ1MS |
| | 33 | 18×21.5 | 0.25 | 694 | 345 | UUG2W330MNJ1MS |

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