# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

# URZ

Compact & Low-Profile Sized,
Wide Temperature Range

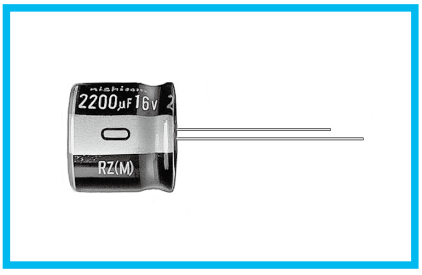
Smaller

- Wide temperature range and same size as URS.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

URZ

High Temperature

URS

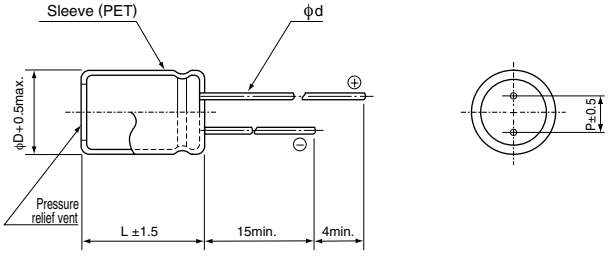



## ■Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −55 to +105˚C |
| Rated Voltage Range | 16 to 100V |
| Rated Capacitance Range | 47 to 6800μF |
| Capacitance Tolerance | ±20% at 120Hz, 20˚C |
| Leakage Current ※ | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV(μA).<br>After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(μA). |
| Tangent of loss angle (tan δ) | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.<br>Rated voltage (V): 16 / 25 / 35 / 50 / 63 / 100<br>tan δ (max.): 0.20 / 0.16 / 0.14 / 0.12 / 0.10 / 0.08<br>Measurement frequency : 120Hz at 20˚C |
| Stability at Low Temperature | Rated voltage (V): 16 / 25 / 35 / 50 / 63 / 100<br>Impedance ratio (max.) Z(−25˚C) / Z(+20˚C): 3 / 2 / 2 / 2 / 2 / 2<br>Impedance ratio (max.) Z(−40˚C) / Z(+20˚C): 6 / 4 / 3 / 3 / 3 / 3<br>Measurement frequency : 120Hz |
| 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.<br>Capacitance change: Within ±20% of the initial capacitance value<br>tan δ: 200% or less than the initial specified value<br>Leakage current: Less than or equal to 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. |
| Marking | Printed with white color letter on black sleeve. |

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

## ■Radial Lead Type




(mm)

| φD | 10 | 12.5 | 16 | 18 |
|---|---|---|---|---|
| P | 5.0 | 5.0 | 7.5 | 7.5 |
| φd | 0.6 | 0.6 | 0.8 | 0.8 |

## Type numbering system (Example : 16V 1000μF)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| U | R | Z | 1 | C | 1 | 0 | 2 | M | H | D | |

Size code
Configuration ※
Capacitance tolerance (±20%)
Rated capacitance (1000μF)
Rated voltage (16V)
Series name
Type

※ Configuration

| φ D | Pb-free leadwire<br>Pb-free PET sleeve |
|---|---|
| 10 | PD |
| 12.5 to 18 | HD |

- Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

## ● Frequency coefficient of rated ripple current

| Cap.(μF) \ Frequency | 50Hz | 120Hz | 300Hz | 1 kHz | 10kHz or more |
|---|---|---|---|---|---|
| 47 | 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 |

● Dimension table in next page.

# URZ

## ■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L(mm) | tan δ | Leakage Current (μA) | | Rated Ripple (mArms) (105℃/120Hz) | Part Number |
|---|---|---|---|---|---|---|---|
| | | | | at 20℃ after 1 minute | at 20℃ after 2 minutes | | |
| 16 (1C) | 1000 | 12.5×12.5 | 0.20 | 480 | 160 | 520 | URZ1C102MHD |
| | 2200 | 16×15 | 0.22 | 1056 | 352 | 830 | URZ1C222MHD |
| | 3300 | 18×15 | 0.24 | 1584 | 528 | 1050 | URZ1C332MHD |
| | 4700 | 18×20 | 0.26 | 2256 | 752 | 1260 | URZ1C472MHD |
| | 6800 | 18×25 | 0.30 | 3264 | 1088 | 1560 | URZ1C682MHD |
| 25 (1E) | 470 | 10×12.5 | 0.16 | 352.5 | 117.5 | 370 | URZ1E471MPD |
| | 1000 | 12.5×15 | 0.16 | 750 | 250 | 590 | URZ1E102MHD |
| | 2200 | 18×15 | 0.18 | 1650 | 550 | 970 | URZ1E222MHD |
| | 3300 | 18×20 | 0.20 | 2475 | 825 | 1220 | URZ1E332MHD |
| | 4700 | 18×25 | 0.22 | 3525 | 1175 | 1470 | URZ1E472MHD |
| 35 (1V) | 330 | 10×12.5 | 0.14 | 346.5 | 115.5 | 340 | URZ1V331MPD |
| | 470 | 12.5×12.5 | 0.14 | 493.5 | 164.5 | 420 | URZ1V471MHD |
| | 1000 | 16×15 | 0.14 | 1050 | 350 | 720 | URZ1V102MHD |
| | 2200 | 18×20 | 0.16 | 2310 | 770 | 1110 | URZ1V222MHD |
| 50 (1H) | 220 | 10×12.5 | 0.12 | 330 | 110 | 290 | URZ1H221MPD |
| | 330 | 12.5×12.5 | 0.12 | 495 | 165 | 370 | URZ1H331MHD |
| | 470 | 16×15 | 0.12 | 705 | 235 | 540 | URZ1H471MHD |
| | 1000 | 18×20 | 0.12 | 1500 | 500 | 830 | URZ1H102MHD |
| 63 (1J) | 220 | 12.5×12.5 | 0.10 | 415.8 | 138.6 | 335 | URZ1J221MHD |
| | 330 | 12.5×15 | 0.10 | 623.7 | 207.9 | 510 | URZ1J331MHD |
| | 470 | 16×15 | 0.10 | 888.3 | 296.1 | 640 | URZ1J471MHD |
| 100 (2A) | 47 | 10×12.5 | 0.08 | 141 | 47 | 165 | URZ2A470MPD |
| | 100 | 12.5×15 | 0.08 | 300 | 100 | 265 | URZ2A101MHD |
| | 220 | 16×15 | 0.08 | 660 | 220 | 440 | URZ2A221MHD |
| | 330 | 18×15 | 0.08 | 990 | 330 | 540 | URZ2A331MHD |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code “1” and then add the appropriate code.

- For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.