

# ALUMINUM ELECTROLYTIC CAPACITORS

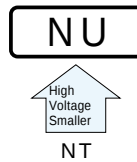
nichicon

**NU** Screw Terminal Type, 105°C  
High Voltage, Smaller Sized.  
series



Upgrade

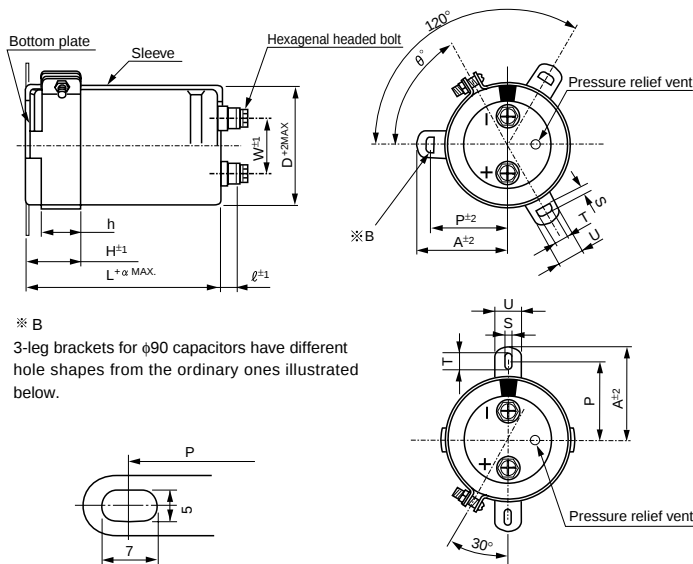
- Suited for use in industrial power supplies for inverter circuitry, etc.
- Rated voltage range up to DC525V.
- Load life of 5000 hours application of ripple current at 105°C.
- High voltage / Smaller sized than NT series.
- Coped with loading of high speed charge-discharge.
- Suited for high frequency regenerative voltage for AC servomotor, general inverter.
- Compliant to the RoHS directive (2011/65/EU).



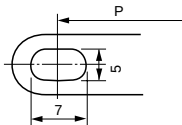
## Specifications

| Item                                     | Performance Characteristics                                                                                                                                                                                                 |                        |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Category Temperature Range               | - 40 to +105°C                                                                                                                                                                                                              |                        |
| Rated Voltage Range                      | 400 to 525V                                                                                                                                                                                                                 |                        |
| Rated Capacitance Range                  | 680 to 18000μF                                                                                                                                                                                                              |                        |
| Capacitance Tolerance                    | ±20% (120Hz, 20°C)                                                                                                                                                                                                          |                        |
| Leakage Current                          | After 5 minutes' application of rated voltage, leakage current is not more than $3\sqrt{C/V}$ (μA) or 5 mA, whichever is smaller. (at 20°C)<br>[C : Rated Capacitance(μF), V : Voltage (V)]                                 |                        |
| Tangent of loss angle (tan δ)            | 0.2MAX. (120Hz at 20°C)                                                                                                                                                                                                     |                        |
| Stability at Low Temperature             | Rated voltage(V)                                                                                                                                                                                                            | 400 to 525             |
|                                          | Impedance ratio ZT/Z20(MAX.)                                                                                                                                                                                                | Z - 40°C / Z+20°C<br>8 |
| Measurement frequency : 120Hz            |                                                                                                                                                                                                                             |                        |
| Insulation Resistance                    | The insulation resistance shall be more than 100MΩ at DC 500V application between terminal and bracket.                                                                                                                     |                        |
| Voltage proof                            | There is no abnormality during AC 2500V 1 minute's application between terminal and bracket.                                                                                                                                |                        |
| Endurance                                | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 5000 hours at 105°C, the peak voltage shall not exceed the rated voltage. |                        |
|                                          |                                                                                                                                                                                                                             |                        |
|                                          |                                                                                                                                                                                                                             |                        |
| 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 requirements listed at right.                        |                        |
|                                          |                                                                                                                                                                                                                             |                        |
|                                          |                                                                                                                                                                                                                             |                        |
| Endurance of charge - discharge behavior | After an application of charge-discharge voltage for 50million times (charge-discharge voltage difference(ΔV) = rated voltage × 0.3, cycle 3Hz) capacitors shall meet the characteristics requirement listed at right.      |                        |
|                                          |                                                                                                                                                                                                                             |                        |
|                                          |                                                                                                                                                                                                                             |                        |
| Marking                                  | Printed with white color letter on black sleeve                                                                                                                                                                             |                        |

## Drawing



※ B  
3-leg brackets for φ90 capacitors have different hole shapes from the ordinary ones illustrated below.



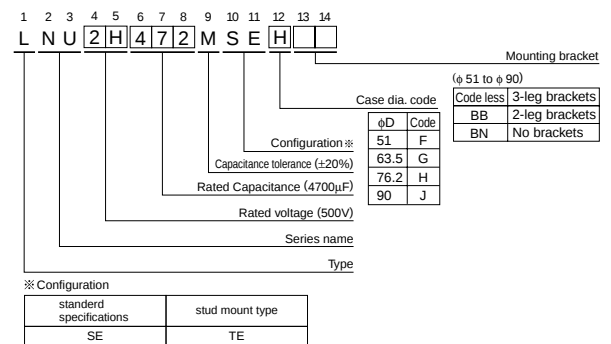
Note) The brackets will be supplied in the separate box.

### Dimension of terminal pitch (W) and length (ℓ) and Nominal dia. of bolt (mm)

| φD   | W    | ℓ | α | Nominal dia. of bolt |
|------|------|---|---|----------------------|
| 51   | 22.0 | 6 | 3 | M5                   |
| 63.5 | 28.6 | 6 | 3 | M5                   |
| 76.2 | 31.8 | 6 | 3 | M5                   |
| 90   | 31.8 | 6 | 3 | M5                   |

About product of stud bolt  
• Nylon nut and nylon washer attachment become the standard specifications. (cf. P330)  
• It is not attached to the bracket.  
• Field 13 and 14 become blank in Type number system.

## Type numbering system (Example : 500V 4700μF)



Please refer to page 330 for schematic of dimensions.  
※ Please contact to us if PVC less products are required.

## Dimensions of mounting bracket (mm)

| Symbol | Leg shape | 3-Leg |      |      |      | 2-Leg |      |      |     |
|--------|-----------|-------|------|------|------|-------|------|------|-----|
|        |           | 51    | 63.5 | 76.2 | 90   | 51    | 63.5 | 76.2 | 90  |
| P      |           | 32.5  | 38.1 | 44.5 | 50.8 | 33.2  | 40.5 | 46.5 | 53  |
| A      |           | 38.5  | 43   | 49.2 | 58.5 | 40    | 46.5 | 53   | 59  |
| T      |           | 7.5   | 8.0  | 7.0  | 8.0  | 6.0   | 7.0  | 6.0  | 6.0 |
| S      |           | 5.0   | 5.0  | 5.0  | 5.0  | 4.5   | 4.5  | 4.5  | 4.5 |
| U      |           | 12    | 14   | 14   | 18   | 14    | 14   | 14   | 14  |
| θ °    |           | 60    | 60   | 60   | 60   | 30    | 30   | 30   | 30  |
| H      |           | 20    | 25   | 30   | 35   | 25    | 35   | 35   | 35  |
| h      |           | 15    | 20   | 24   | 25   | 15    | 20   | 20   | 20  |

• Dimension table in next page.

CAT.8100C

## ■Dimensions

| 400V (2G)    |                    |                        |       |                         |              |
|--------------|--------------------|------------------------|-------|-------------------------|--------------|
| Cap.<br>(μF) | Size<br>φD × L(mm) | Rated ripple<br>(Arms) | tan δ | Leakage Current<br>(mA) | Code         |
| 2700         | 63.5×80            | 11.9                   | 0.20  | 3.12                    | LNU2G272MSEG |
| 3300         | 63.5×95            | 13.6                   | 0.20  | 3.45                    | LNU2G332MSEG |
|              | 76.2×75            | 13.1                   | 0.20  | 3.45                    | LNU2G332MSEH |
| 3900         | 63.5×100           | 14.6                   | 0.20  | 3.75                    | LNU2G392MSEG |
|              | 76.2×85            | 14.3                   | 0.20  | 3.75                    | LNU2G392MSEH |
| 4700         | 63.5×120           | 16.1                   | 0.20  | 4.11                    | LNU2G472MSEG |
|              | 76.2×95            | 15.8                   | 0.20  | 4.11                    | LNU2G472MSEH |
| 5600         | 63.5×135           | 17.7                   | 0.20  | 4.49                    | LNU2G562MSEG |
|              | 76.2×105           | 17.1                   | 0.20  | 4.49                    | LNU2G562MSEH |
| 6800         | 76.2×125           | 19.5                   | 0.20  | 4.95                    | LNU2G682MSEH |
|              | 90×105             | 18.8                   | 0.20  | 4.95                    | LNU2G682MSEJ |
| 8200         | 76.2×170           | 24.2                   | 0.20  | 5.00                    | LNU2G822MSEH |
|              | 90×125             | 23.1                   | 0.20  | 5.00                    | LNU2G822MSEJ |
| 10000        | 90×145             | 25.9                   | 0.20  | 5.00                    | LNU2G103MSEJ |
| 12000        | 90×165             | 30.1                   | 0.20  | 5.00                    | LNU2G123MSEJ |
| 15000        | 90×195             | 33.5                   | 0.20  | 5.00                    | LNU2G153MSEJ |
| 18000        | 90×235             | 38.0                   | 0.20  | 5.00                    | LNU2G183MSEJ |

| 450V (2W)    |                    |                        |       |                         |              |
|--------------|--------------------|------------------------|-------|-------------------------|--------------|
| Cap.<br>(μF) | Size<br>φD × L(mm) | Rated ripple<br>(Arms) | tan δ | Leakage Current<br>(mA) | Code         |
| 2700         | 63.5×100           | 13.1                   | 0.20  | 3.31                    | LNU2W272MSEG |
| 3300         | 63.5×120           | 15.0                   | 0.20  | 3.66                    | LNU2W332MSEG |
|              | 76.2×95            | 14.4                   | 0.20  | 3.66                    | LNU2W332MSEH |
| 3900         | 63.5×135           | 16.3                   | 0.20  | 3.97                    | LNU2W392MSEG |
|              | 76.2×105           | 15.4                   | 0.20  | 3.97                    | LNU2W392MSEH |
| 4700         | 63.5×165           | 18.5                   | 0.20  | 4.36                    | LNU2W472MSEG |
|              | 76.2×130           | 17.9                   | 0.20  | 4.36                    | LNU2W472MSEH |
| 5600         | 76.2×150           | 20.5                   | 0.20  | 4.76                    | LNU2W562MSEH |
|              | 90×105             | 19.6                   | 0.20  | 4.76                    | LNU2W562MSEJ |
| 6800         | 76.2×170           | 23.4                   | 0.20  | 5.00                    | LNU2W682MSEH |
|              | 90×125             | 22.5                   | 0.20  | 5.00                    | LNU2W682MSEJ |
| 8200         | 76.2×195           | 25.7                   | 0.20  | 5.00                    | LNU2W822MSEH |
|              | 90×145             | 24.7                   | 0.20  | 5.00                    | LNU2W822MSEJ |
| 10000        | 90×165             | 27.3                   | 0.20  | 5.00                    | LNU2W103MSEJ |
| 12000        | 90×195             | 29.9                   | 0.20  | 5.00                    | LNU2W123MSEJ |
| 15000        | 90×235             | 34.5                   | 0.20  | 5.00                    | LNU2W153MSEJ |

| 500V (2H)    |                    |                        |       |                         |              |
|--------------|--------------------|------------------------|-------|-------------------------|--------------|
| Cap.<br>(μF) | Size<br>φD × L(mm) | Rated ripple<br>(Arms) | tan δ | Leakage Current<br>(mA) | Code         |
| 680          | 51×75              | 4.0                    | 0.20  | 1.75                    | LNU2H681MSEF |
| 1000         | 51×90              | 5.0                    | 0.20  | 2.12                    | LNU2H102MSEF |
| 1200         | 51×115             | 5.7                    | 0.20  | 2.32                    | LNU2H122MSEF |
|              | 63.5×80            | 5.7                    | 0.20  | 2.32                    | LNU2H122MSEG |
| 1500         | 51×135             | 6.6                    | 0.20  | 2.60                    | LNU2H152MSEF |
|              | 63.5×90            | 6.6                    | 0.20  | 2.60                    | LNU2H152MSEG |
| 1800         | 63.5×100           | 7.4                    | 0.20  | 2.85                    | LNU2H182MSEG |
|              | 76.2×70            | 7.4                    | 0.20  | 2.85                    | LNU2H182MSEH |
| 2200         | 63.5×120           | 8.5                    | 0.20  | 3.15                    | LNU2H222MSEG |
|              | 76.2×95            | 8.5                    | 0.20  | 3.15                    | LNU2H222MSEH |
| 2700         | 63.5×135           | 9.6                    | 0.20  | 3.49                    | LNU2H272MSEG |
|              | 76.2×105           | 9.6                    | 0.20  | 3.49                    | LNU2H272MSEH |
| 3300         | 63.5×165           | 10.9                   | 0.20  | 3.85                    | LNU2H332MSEG |
|              | 76.2×130           | 10.9                   | 0.20  | 3.85                    | LNU2H332MSEH |
| 3900         | 76.2×145           | 12.4                   | 0.20  | 4.19                    | LNU2H392MSEH |
|              | 90×105             | 12.4                   | 0.20  | 4.19                    | LNU2H392MSEJ |
| 4700         | 76.2×165           | 13.9                   | 0.20  | 4.60                    | LNU2H472MSEH |
|              | 90×125             | 13.9                   | 0.20  | 4.60                    | LNU2H472MSEJ |
| 5600         | 90×145             | 15.8                   | 0.20  | 5.00                    | LNU2H562MSEJ |
| 6800         | 90×165             | 18.5                   | 0.20  | 5.00                    | LNU2H682MSEJ |
| 8200         | 90×205             | 20.2                   | 0.20  | 5.00                    | LNU2H822MSEJ |

| 525V (N7)    |                    |                        |       |                         |              |
|--------------|--------------------|------------------------|-------|-------------------------|--------------|
| Cap.<br>(μF) | Size<br>φD × L(mm) | Rated ripple<br>(Arms) | tan δ | Leakage Current<br>(mA) | Code         |
| 680          | 51×85              | 4.4                    | 0.20  | 1.75                    | LNUN7681MSEF |
| 1000         | 51×95              | 5.4                    | 0.20  | 2.12                    | LNUN7102MSEF |
| 1500         | 63.5×95            | 7.2                    | 0.20  | 2.60                    | LNUN7152MSEG |
| 1800         | 63.5×105           | 8.0                    | 0.20  | 2.85                    | LNUN7182MSEG |
| 2200         | 63.5×135           | 9.2                    | 0.20  | 3.15                    | LNUN7222MSEG |
|              | 76.2×100           | 9.2                    | 0.20  | 3.15                    | LNUN7222MSEH |
| 2700         | 76.2×115           | 10.6                   | 0.20  | 3.49                    | LNUN7272MSEH |
| 3300         | 76.2×140           | 12.1                   | 0.20  | 3.85                    | LNUN7332MSEH |
| 4700         | 76.2×185           | 15.2                   | 0.20  | 4.60                    | LNUN7472MSEH |
|              | 90×135             | 15.2                   | 0.20  | 4.60                    | LNUN7472MSEJ |
| 5600         | 90×155             | 17.5                   | 0.20  | 5.00                    | LNUN7562MSEJ |

Rated ripple current (Arms) at 105°C 120Hz

## ●Frequency coefficient of rated ripple current

| Frequency (Hz) | 50   | 60   | 120  | 360  | 1k   | 10k or more |
|----------------|------|------|------|------|------|-------------|
| Coefficient    | 0.80 | 0.82 | 1.00 | 1.20 | 1.30 | 1.40        |