

**LNT**

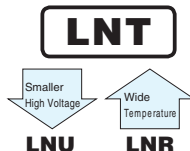
Screw Terminal Type, 105°C Standard



High Ripple Current

- Load life of 5,000 hours (2,000 hours for 10 to 250V, 500V) application of rated ripple current at +105°C.
- Extended voltage range from 10V up to 500V.
- Extended range up to  $\phi 100 \times 250L$  2size.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).

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

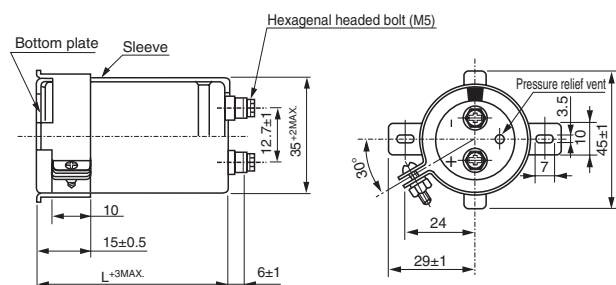


## Specifications

| Item                                | Performance Characteristics                                                                                                                                                                                                                                  |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------|-------|-----------------------------------------------|-----------------|---------------------------------------------------|
| Category Temperature Range          | - 40 to +105°C (10 to 100V) , - 25 to +105°C (160 to 500V)                                                                                                                                                                                                   |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Rated Voltage Range                 | 10 to 500V                                                                                                                                                                                                                                                   |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Rated Capacitance Range             | 220 to 1500000μF                                                                                                                                                                                                                                             |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Capacitance Tolerance               | ± 20% at 120Hz, 20°C                                                                                                                                                                                                                                         |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Leakage Current                     | After 5 minutes' application of rated voltage, leakage current is not more than $3\sqrt{C_V}$ (μA) or 5mA, whichever is smaller. (at 20°C) [C:Rated Capacitance (μF) , V:Voltage(V)]                                                                         |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Tangent of loss angle (tan δ) (MAX) | See refer to next page (Measurement frequency : 120Hz at 20°C)                                                                                                                                                                                               |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Stability at Low Temperature        | Rated voltage(V)                                                                                                                                                                                                                                             |                 | 10 to 100 | 160 to 500 | Measurement frequency : 120Hz                                                                                                                                                                                                                                                    |                    |                                              |       |                                               |                 |                                                   |
|                                     | Impedance ratio                                                                                                                                                                                                                                              | Z - 25°C/Z+20°C | —         | 8          |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
|                                     | ZT/Z20(MAX.)                                                                                                                                                                                                                                                 | Z - 40°C/Z+20°C | 12        | —          |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| 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 (2000 hours for 10 to 250V/500V) at 105°C, the peak voltage shall not exceed the rated voltage. |                 |           |            | <table><tr><td>Capacitance change</td><td>Within ±20% of the initial capacitance value</td></tr><tr><td>tan δ</td><td>300% or less than the initial specified value</td></tr><tr><td>Leakage current</td><td>Less than or equal to the initial specified value</td></tr></table> | Capacitance change | Within ±20% of the initial capacitance value | tan δ | 300% or less than the initial specified value | Leakage current | Less than or equal to the initial specified value |
| Capacitance change                  | Within ±20% of the initial capacitance value                                                                                                                                                                                                                 |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| tan δ                               | 300% or less than the initial specified value                                                                                                                                                                                                                |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| 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 requirements listed at right.                                                         |                 |           |            | <table><tr><td>Capacitance change</td><td>Within ±20% of the initial capacitance value</td></tr><tr><td>tan δ</td><td>300% or less than the initial specified value</td></tr><tr><td>Leakage current</td><td>Less than or equal to the initial specified value</td></tr></table> | Capacitance change | Within ±20% of the initial capacitance value | tan δ | 300% or less than the initial specified value | Leakage current | Less than or equal to the initial specified value |
| Capacitance change                  | Within ±20% of the initial capacitance value                                                                                                                                                                                                                 |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| tan δ                               | 300% or less than the initial specified value                                                                                                                                                                                                                |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Leakage current                     | Less than or equal to the initial specified value                                                                                                                                                                                                            |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |
| Marking                             | Printed with white color letter on black sleeve.                                                                                                                                                                                                             |                 |           |            |                                                                                                                                                                                                                                                                                  |                    |                                              |       |                                               |                 |                                                   |

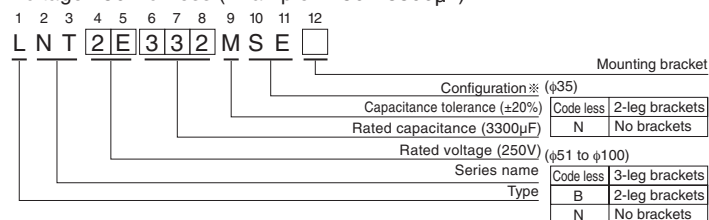
## Drawing

φ35 Screw terminal type

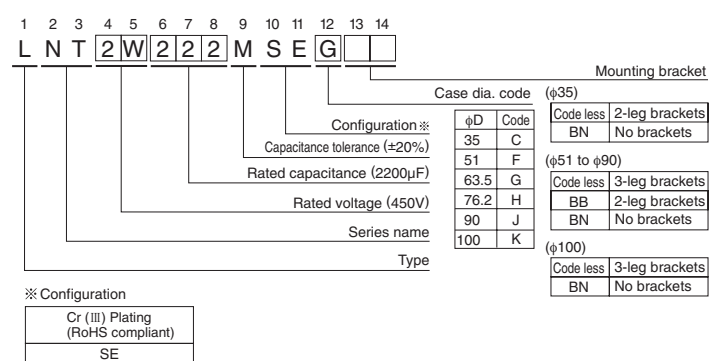


## Type numbering system

Voltage 250V or less (Example : 250V 3300µF)



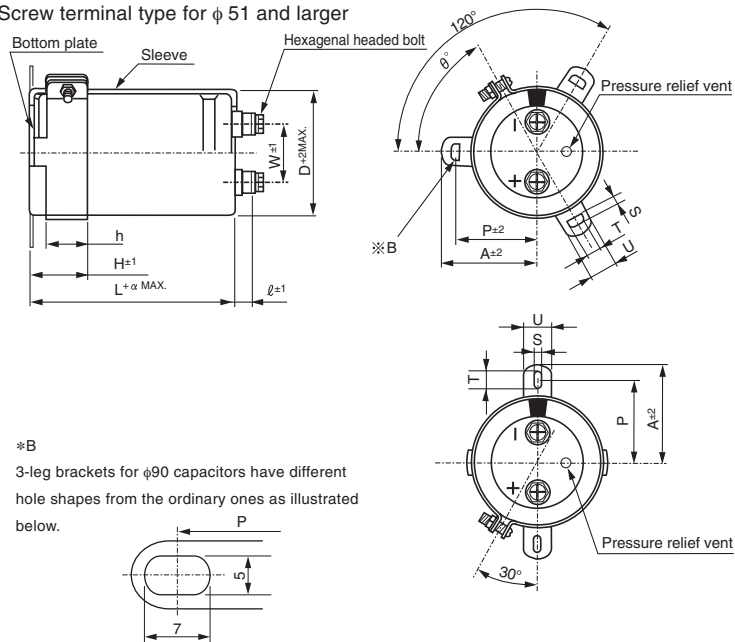
Voltage 350V or more (Example : 450V 2200µF)



Please refer to page 348 for schematic of dimensions.  
 ※ Please contact to us if PVCless products are required.

● Dimension table in next page.

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Screw terminal type for  $\phi 51$  and larger● Dimension of terminal pitch (W) and length ( $\ell$ ) and Nominal dia. of bolt (mm)

| $\phi D$ | W    | $\ell$ | $\alpha$ | Nominal. 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               |
| 100      | 41.5 | 10     | 4        | M8               |

● Dimensions of mounting bracket (mm)

| Leg Shape      |          | 3-Legs |      |      |      |      | 2-Legs |      |      |     |
|----------------|----------|--------|------|------|------|------|--------|------|------|-----|
| Symbol         | $\phi D$ | 51     | 63.5 | 76.2 | 90   | 100  | 51     | 63.5 | 76.2 | 90  |
| P              |          | 32.5   | 38.1 | 44.5 | 50.8 | 56.3 | 33.2   | 40.5 | 46.5 | 53  |
| A              |          | 38.5   | 43   | 49.2 | 58.5 | 62   | 40     | 46.5 | 53   | 59  |
| T              |          | 7.5    | 8.0  | 7.0  | 8.0  | 8.0  | 6.0    | 7.0  | 6.0  | 6.0 |
| S              |          | 5.0    | 5.0  | 5.0  | 5.0  | 5.0  | 4.5    | 4.5  | 4.5  | 4.5 |
| U              |          | 12     | 14   | 14   | 18   | 16   | 14     | 14   | 14   | 14  |
| $\theta^\circ$ |          | 60     | 60   | 60   | 60   | 60   | 30     | 30   | 30   | 30  |
| H              |          | 20     | 25   | 30   | 35   | 36   | 25     | 35   | 35   | 35  |
| h              |          | 15     | 20   | 24   | 25   | 30   | 15     | 20   | 20   | 20  |

## ■ Dimensions

| 10V (1A)         |                             |                     |               |                      |             |
|------------------|-----------------------------|---------------------|---------------|----------------------|-------------|
| Cap. ( $\mu F$ ) | Size $\phi D \times L$ (mm) | Rated ripple (Arms) | $\tan \delta$ | Leakage Current (mA) | Code        |
| 33000            | 35 × 80                     | 4.8                 | 0.65          | 1.72                 | LNT1A333MSE |
| 47000            | 35 × 100                    | 6.2                 | 0.65          | 2.05                 | LNT1A473MSE |
| 68000            | 51 × 80                     | 6.8                 | 0.80          | 2.47                 | LNT1A683MSE |
| 100000           | 51 × 100                    | 8.6                 | 0.80          | 3.00                 | LNT1A104MSE |
| 150000           | 51 × 120                    | 10.8                | 0.85          | 3.67                 | LNT1A154MSE |
| 220000           | 63.5 × 120                  | 13.2                | 1.20          | 4.44                 | LNT1A224MSE |
| 330000           | 76.2 × 120                  | 15.8                | 2.00          | 5.00                 | LNT1A334MSE |
| 470000           | 90 × 140                    | 17.0                | 2.40          | 5.00                 | LNT1A474MSE |
| 680000           | 90 × 170                    | 18.4                | 2.40          | 5.00                 | LNT1A684MSE |
| ※1000000         | 90 × 220                    | 20.1                | 2.40          | 5.00                 | LNT1A105MSE |
| ※1500000         | 100 × 220                   | 22.1                | 2.40          | 5.00                 | LNT1A155MSE |

| 16V (1C)         |                             |                     |               |                      |             |
|------------------|-----------------------------|---------------------|---------------|----------------------|-------------|
| Cap. ( $\mu F$ ) | Size $\phi D \times L$ (mm) | Rated ripple (Arms) | $\tan \delta$ | Leakage Current (mA) | Code        |
| 33000            | 35 × 80                     | 5.2                 | 0.45          | 2.17                 | LNT1C333MSE |
| 47000            | 35 × 100                    | 6.8                 | 0.45          | 2.60                 | LNT1C473MSE |
| 68000            | 51 × 80                     | 7.1                 | 0.60          | 3.12                 | LNT1C683MSE |
| 100000           | 51 × 100                    | 9.6                 | 0.60          | 3.79                 | LNT1C104MSE |
| 150000           | 51 × 120                    | 11.0                | 0.60          | 4.64                 | LNT1C154MSE |
| 220000           | 63.5 × 120                  | 14.1                | 0.80          | 5.00                 | LNT1C224MSE |
| 330000           | 76.2 × 120                  | 20.6                | 1.20          | 5.00                 | LNT1C334MSE |
| 470000           | 90 × 140                    | 22.1                | 2.00          | 5.00                 | LNT1C474MSE |
| 680000           | 90 × 170                    | 24.0                | 2.00          | 5.00                 | LNT1C684MSE |
| ※1000000         | 90 × 220                    | 26.1                | 2.00          | 5.00                 | LNT1C105MSE |
| ※1500000         | 100 × 250                   | 28.8                | 2.00          | 5.00                 | LNT1C155MSE |

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

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## ■ Dimensions

| 25V (1E)           |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 22000              | 35 $\times$ 80                  | 4.9                    | 0.40          | 2.22                    | LNT1E223MSE |
| 33000              | 35 $\times$ 100                 | 6.2                    | 0.40          | 2.72                    | LNT1E333MSE |
| 47000              | 51 $\times$ 80                  | 8.3                    | 0.50          | 3.25                    | LNT1E473MSE |
| 68000              | 51 $\times$ 120                 | 10.2                   | 0.50          | 3.91                    | LNT1E683MSE |
| 100000             | 63.5 $\times$ 100               | 11.5                   | 0.65          | 4.74                    | LNT1E104MSE |
| 150000             | 63.5 $\times$ 120               | 13.8                   | 0.70          | 5.00                    | LNT1E154MSE |
| 220000             | 76.2 $\times$ 120               | 17.0                   | 0.90          | 5.00                    | LNT1E224MSE |
| 330000             | 90 $\times$ 140                 | 20.8                   | 1.50          | 5.00                    | LNT1E334MSE |
| 470000             | 90 $\times$ 170                 | 22.4                   | 1.50          | 5.00                    | LNT1E474MSE |
| 680000             | 90 $\times$ 220                 | 24.2                   | 1.50          | 5.00                    | LNT1E684MSE |
| ※ 1000000          | 100 $\times$ 220                | 26.4                   | 1.50          | 5.00                    | LNT1E105MSE |

| 35V (1V)           |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 10000              | 35 $\times$ 80                  | 4.7                    | 0.30          | 1.77                    | LNT1V103MSE |
| 15000              | 35 $\times$ 80                  | 5.1                    | 0.30          | 2.17                    | LNT1V153MSE |
| 22000              | 35 $\times$ 100                 | 5.6                    | 0.30          | 2.63                    | LNT1V223MSE |
| 33000              | 51 $\times$ 80                  | 7.4                    | 0.40          | 3.22                    | LNT1V333MSE |
| 47000              | 51 $\times$ 100                 | 8.4                    | 0.40          | 3.84                    | LNT1V473MSE |
| 68000              | 51 $\times$ 120                 | 12.3                   | 0.40          | 4.62                    | LNT1V683MSE |
| 100000             | 63.5 $\times$ 120               | 13.6                   | 0.50          | 5.00                    | LNT1V104MSE |
| 150000             | 76.2 $\times$ 120               | 15.1                   | 0.70          | 5.00                    | LNT1V154MSE |
| 220000             | 90 $\times$ 140                 | 17.4                   | 1.00          | 5.00                    | LNT1V224MSE |
| 330000             | 90 $\times$ 170                 | 21.3                   | 1.00          | 5.00                    | LNT1V334MSE |
| 470000             | 90 $\times$ 220                 | 25.4                   | 1.00          | 5.00                    | LNT1V474MSE |
| 680000             | 100 $\times$ 250                | 27.5                   | 1.00          | 5.00                    | LNT1V684MSE |

| 50V (1H)           |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 10000              | 35 $\times$ 80                  | 4.9                    | 0.25          | 2.12                    | LNT1H103MSE |
| 15000              | 35 $\times$ 100                 | 5.5                    | 0.25          | 2.59                    | LNT1H153MSE |
| 22000              | 51 $\times$ 80                  | 6.3                    | 0.25          | 3.14                    | LNT1H223MSE |
| 33000              | 51 $\times$ 120                 | 8.0                    | 0.30          | 3.85                    | LNT1H333MSE |
| 47000              | 63.5 $\times$ 100               | 9.9                    | 0.35          | 4.59                    | LNT1H473MSE |
| 68000              | 63.5 $\times$ 120               | 12.8                   | 0.35          | 5.00                    | LNT1H683MSE |
| 100000             | 76.2 $\times$ 120               | 16.8                   | 0.55          | 5.00                    | LNT1H104MSE |
| 150000             | 90 $\times$ 140                 | 19.5                   | 0.75          | 5.00                    | LNT1H154MSE |
| 220000             | 90 $\times$ 170                 | 22.0                   | 0.75          | 5.00                    | LNT1H224MSE |
| 330000             | 90 $\times$ 220                 | 24.3                   | 0.75          | 5.00                    | LNT1H334MSE |
| 470000             | 100 $\times$ 250                | 26.1                   | 0.75          | 5.00                    | LNT1H474MSE |

| 63V (1J)           |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 10000              | 35 $\times$ 100                 | 5.0                    | 0.25          | 2.38                    | LNT1J103MSE |
| 15000              | 51 $\times$ 80                  | 5.9                    | 0.25          | 2.91                    | LNT1J153MSE |
| 22000              | 51 $\times$ 100                 | 6.9                    | 0.25          | 3.53                    | LNT1J223MSE |
| 33000              | 63.5 $\times$ 100               | 9.4                    | 0.30          | 4.32                    | LNT1J333MSE |
| 47000              | 63.5 $\times$ 120               | 11.2                   | 0.30          | 5.00                    | LNT1J473MSE |
| 68000              | 76.2 $\times$ 120               | 13.5                   | 0.50          | 5.00                    | LNT1J683MSE |
| 100000             | 90 $\times$ 140                 | 17.8                   | 0.60          | 5.00                    | LNT1J104MSE |
| 150000             | 90 $\times$ 170                 | 21.0                   | 0.60          | 5.00                    | LNT1J154MSE |
| 220000             | 90 $\times$ 220                 | 23.7                   | 0.60          | 5.00                    | LNT1J224MSE |
| 330000             | 100 $\times$ 250                | 26.1                   | 0.60          | 5.00                    | LNT1J334MSE |

| 80V (1K)           |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 4700               | 35 $\times$ 80                  | 3.5                    | 0.20          | 1.83                    | LNT1K472MSE |
| 6800               | 35 $\times$ 100                 | 3.9                    | 0.20          | 2.21                    | LNT1K682MSE |
| 10000              | 51 $\times$ 80                  | 5.4                    | 0.20          | 2.68                    | LNT1K103MSE |
| 15000              | 51 $\times$ 100                 | 6.4                    | 0.20          | 3.28                    | LNT1K153MSE |
| 22000              | 63.5 $\times$ 100               | 8.4                    | 0.25          | 3.97                    | LNT1K223MSE |
| 33000              | 76.2 $\times$ 100               | 9.9                    | 0.30          | 4.87                    | LNT1K333MSE |
| 47000              | 76.2 $\times$ 120               | 13.4                   | 0.35          | 5.00                    | LNT1K473MSE |
| 68000              | 90 $\times$ 140                 | 17.0                   | 0.40          | 5.00                    | LNT1K683MSE |
| 100000             | 90 $\times$ 170                 | 18.6                   | 0.40          | 5.00                    | LNT1K104MSE |
| 150000             | 90 $\times$ 220                 | 21.6                   | 0.40          | 5.00                    | LNT1K154MSE |
| 220000             | 100 $\times$ 250                | 24.8                   | 0.40          | 5.00                    | LNT1K224MSE |

| 100V (2A)          |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 2200               | 35 $\times$ 80                  | 2.4                    | 0.12          | 1.40                    | LNT2A222MSE |
| 3300               | 35 $\times$ 80                  | 3.3                    | 0.12          | 1.72                    | LNT2A332MSE |
| 4700               | 35 $\times$ 100                 | 3.8                    | 0.12          | 2.05                    | LNT2A472MSE |
| 6800               | 51 $\times$ 80                  | 5.2                    | 0.15          | 2.47                    | LNT2A682MSE |
| 10000              | 51 $\times$ 100                 | 6.7                    | 0.15          | 3.00                    | LNT2A103MSE |
| 15000              | 63.5 $\times$ 100               | 7.8                    | 0.20          | 3.67                    | LNT2A153MSE |
| 22000              | 76.2 $\times$ 100               | 9.9                    | 0.30          | 4.44                    | LNT2A223MSE |
| 33000              | 76.2 $\times$ 140               | 12.7                   | 0.30          | 5.00                    | LNT2A333MSE |
| 47000              | 90 $\times$ 140                 | 17.0                   | 0.30          | 5.00                    | LNT2A473MSE |
| 68000              | 90 $\times$ 170                 | 18.2                   | 0.30          | 5.00                    | LNT2A683MSE |
| 100000             | 90 $\times$ 220                 | 20.6                   | 0.30          | 5.00                    | LNT2A104MSE |
| 150000             | 100 $\times$ 220                | 23.4                   | 0.30          | 5.00                    | LNT2A154MSE |

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

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## ■ Dimensions

| 160V (2C)          |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 1000               | 35 $\times$ 80                  | 1.6                    | 0.15          | 1.20                    | LNT2C102MSE |
| 1500               | 35 $\times$ 80                  | 2.1                    | 0.15          | 1.46                    | LNT2C152MSE |
| 2200               | 35 $\times$ 100                 | 2.7                    | 0.15          | 1.77                    | LNT2C222MSE |
| 3300               | 51 $\times$ 80                  | 3.8                    | 0.15          | 2.17                    | LNT2C332MSE |
| 4700               | 51 $\times$ 100                 | 4.5                    | 0.15          | 2.60                    | LNT2C472MSE |
| 6800               | 63.5 $\times$ 100               | 6.8                    | 0.20          | 3.12                    | LNT2C682MSE |
| 10000              | 63.5 $\times$ 120               | 7.8                    | 0.20          | 3.79                    | LNT2C103MSE |
| 15000              | 76.2 $\times$ 120               | 9.8                    | 0.20          | 4.64                    | LNT2C153MSE |
| 22000              | 76.2 $\times$ 140               | 12.5                   | 0.20          | 5.00                    | LNT2C223MSE |
| 33000              | 90 $\times$ 140                 | 13.4                   | 0.25          | 5.00                    | LNT2C333MSE |
| 47000              | 90 $\times$ 220                 | 17.2                   | 0.25          | 5.00                    | LNT2C473MSE |
| 68000              | 100 $\times$ 250                | 19.2                   | 0.25          | 5.00                    | LNT2C683MSE |

| 200V (2D)          |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 1000               | 35 $\times$ 80                  | 1.7                    | 0.15          | 1.34                    | LNT2D102MSE |
| 1500               | 35 $\times$ 100                 | 2.3                    | 0.15          | 1.64                    | LNT2D152MSE |
| 2200               | 51 $\times$ 80                  | 2.9                    | 0.15          | 1.99                    | LNT2D222MSE |
| 3300               | 51 $\times$ 100                 | 3.9                    | 0.15          | 2.43                    | LNT2D332MSE |
| 4700               | 63.5 $\times$ 100               | 5.1                    | 0.20          | 2.90                    | LNT2D472MSE |
| 6800               | 63.5 $\times$ 120               | 7.0                    | 0.20          | 3.49                    | LNT2D682MSE |
| 10000              | 76.2 $\times$ 120               | 8.2                    | 0.20          | 4.24                    | LNT2D103MSE |
| 15000              | 76.2 $\times$ 140               | 10.4                   | 0.20          | 5.00                    | LNT2D153MSE |
| 22000              | 90 $\times$ 140                 | 15.1                   | 0.25          | 5.00                    | LNT2D223MSE |
| 33000              | 90 $\times$ 220                 | 16.6                   | 0.25          | 5.00                    | LNT2D333MSE |
| 47000              | 90 $\times$ 250                 | 19.9                   | 0.25          | 5.00                    | LNT2D473MSE |

| 250V (2E)          |                                 |                        |               |                         |             |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|-------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code        |
| 680                | 35 $\times$ 80                  | 1.4                    | 0.15          | 1.23                    | LNT2E681MSE |
| 1000               | 35 $\times$ 100                 | 1.9                    | 0.15          | 1.50                    | LNT2E102MSE |
| 1500               | 51 $\times$ 80                  | 2.4                    | 0.15          | 1.83                    | LNT2E152MSE |
| 2200               | 51 $\times$ 100                 | 3.2                    | 0.15          | 2.22                    | LNT2E222MSE |
| 3300               | 63.5 $\times$ 100               | 4.3                    | 0.20          | 2.72                    | LNT2E332MSE |
| 4700               | 63.5 $\times$ 120               | 5.9                    | 0.20          | 3.25                    | LNT2E472MSE |
| 6800               | 76.2 $\times$ 120               | 7.1                    | 0.20          | 3.91                    | LNT2E682MSE |
| 10000              | 90 $\times$ 140                 | 9.6                    | 0.25          | 4.74                    | LNT2E103MSE |
| 15000              | 90 $\times$ 170                 | 12.7                   | 0.25          | 5.00                    | LNT2E153MSE |
| 22000              | 90 $\times$ 220                 | 15.4                   | 0.25          | 5.00                    | LNT2E223MSE |
| 33000              | 100 $\times$ 250                | 17.0                   | 0.25          | 5.00                    | LNT2E333MSE |

| 350V (2V)          |                                 |                        |               |                         |              |
|--------------------|---------------------------------|------------------------|---------------|-------------------------|--------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code         |
| 330                | 35 $\times$ 80                  | 2.1                    | 0.20          | 1.01                    | LNT2V331MSEC |
| 470                | 35 $\times$ 80                  | 2.8                    | 0.20          | 1.21                    | LNT2V471MSEC |
| 680                | 51 $\times$ 80                  | 4.1                    | 0.20          | 1.46                    | LNT2V681MSEF |
| 1000               | 51 $\times$ 80                  | 6.5                    | 0.20          | 1.77                    | LNT2V102MSEF |
| 1500               | 51 $\times$ 100                 | 8.6                    | 0.20          | 2.17                    | LNT2V152MSEF |
| 2200               | 51 $\times$ 120                 | 11.0                   | 0.20          | 2.63                    | LNT2V222MSEF |
| 2700               | 63.5 $\times$ 100               | 12.7                   | 0.20          | 2.91                    | LNT2V272MSEG |
| 3300               | 63.5 $\times$ 110               | 14.4                   | 0.20          | 3.22                    | LNT2V332MSEG |
| 3900               | 63.5 $\times$ 130               | 16.8                   | 0.20          | 3.50                    | LNT2V392MSEG |
| 4700               | 63.5 $\times$ 150               | 19.8                   | 0.20          | 3.84                    | LNT2V472MSEG |
|                    | 76.2 $\times$ 120               | 19.7                   | 0.20          | 3.84                    | LNT2V472MSEH |
| 5600               | 63.5 $\times$ 170               | 22.7                   | 0.20          | 4.20                    | LNT2V562MSEG |
|                    | 76.2 $\times$ 130               | 22.2                   | 0.20          | 4.20                    | LNT2V562MSEH |
| 6800               | 76.2 $\times$ 150               | 26.2                   | 0.20          | 4.62                    | LNT2V682MSEH |
| 8200               | 76.2 $\times$ 170               | 30.3                   | 0.20          | 5.00                    | LNT2V822MSEH |
|                    | 90 $\times$ 150                 | 29.3                   | 0.20          | 5.00                    | LNT2V822MSEJ |
| 10000              | 90 $\times$ 150                 | 32.4                   | 0.20          | 5.00                    | LNT2V103MSEJ |
| 12000              | 90 $\times$ 190                 | 36.0                   | 0.20          | 5.00                    | LNT2V123MSEJ |
| 15000              | 90 $\times$ 220                 | 42.9                   | 0.20          | 5.00                    | LNT2V153MSEJ |
| 22000              | 100 $\times$ 250                | 48.0                   | 0.20          | 5.00                    | LNT2V223MSEK |

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

LNT

## ■ Dimensions

| 400V (2G)          |                                |                        |               |                         |              |
|--------------------|--------------------------------|------------------------|---------------|-------------------------|--------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi D \times L$ (mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code         |
| 220                | 35 $\times$ 80                 | 1.6                    | 0.20          | 0.88                    | LNT2G221MSEC |
| 330                | 35 $\times$ 80                 | 2.3                    | 0.20          | 1.09                    | LNT2G331MSEC |
| 470                | 35 $\times$ 100                | 3.1                    | 0.20          | 1.30                    | LNT2G471MSEC |
| 680                | 51 $\times$ 80                 | 4.2                    | 0.20          | 1.56                    | LNT2G681MSEF |
| 1000               | 51 $\times$ 80                 | 6.6                    | 0.20          | 1.89                    | LNT2G102MSEF |
| 1500               | 51 $\times$ 120                | 9.1                    | 0.20          | 2.32                    | LNT2G152MSEF |
| 2200               | 63.5 $\times$ 100              | 11.5                   | 0.20          | 2.81                    | LNT2G222MSEG |
| 2700               | 63.5 $\times$ 110              | 13.1                   | 0.20          | 3.11                    | LNT2G272MSEG |
| 3300               | 63.5 $\times$ 130              | 15.4                   | 0.20          | 3.44                    | LNT2G332MSEG |
| 3900               | 63.5 $\times$ 150              | 17.9                   | 0.20          | 3.74                    | LNT2G392MSEG |
|                    | 76.2 $\times$ 110              | 18.2                   | 0.20          | 3.74                    | LNT2G392MSEH |
| 4700               | 63.5 $\times$ 170              | 20.7                   | 0.20          | 4.11                    | LNT2G472MSEG |
|                    | 76.2 $\times$ 130              | 20.3                   | 0.20          | 4.11                    | LNT2G472MSEH |
| 5600               | 76.2 $\times$ 150              | 23.7                   | 0.20          | 4.49                    | LNT2G562MSEH |
| 6800               | 76.2 $\times$ 170              | 27.6                   | 0.20          | 4.94                    | LNT2G682MSEH |
|                    | 90 $\times$ 150                | 26.9                   | 0.20          | 4.94                    | LNT2G682MSEJ |
| 8200               | 90 $\times$ 170                | 31.0                   | 0.20          | 5.00                    | LNT2G822MSEJ |
| 10000              | 90 $\times$ 190                | 32.9                   | 0.20          | 5.00                    | LNT2G103MSEJ |
| 12000              | 90 $\times$ 220                | 38.3                   | 0.20          | 5.00                    | LNT2G123MSEJ |
| 15000              | 100 $\times$ 220               | 44.5                   | 0.20          | 5.00                    | LNT2G153MSEK |

| 450V (2W)          |                                |                        |               |                         |              |
|--------------------|--------------------------------|------------------------|---------------|-------------------------|--------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi D \times L$ (mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code         |
| 220                | 35 $\times$ 80                 | 1.8                    | 0.20          | 0.94                    | LNT2W221MSEC |
| 330                | 35 $\times$ 100                | 2.4                    | 0.20          | 1.15                    | LNT2W331MSEC |
| 470                | 51 $\times$ 80                 | 3.4                    | 0.20          | 1.37                    | LNT2W471MSEF |
| 680                | 51 $\times$ 100                | 4.4                    | 0.20          | 1.65                    | LNT2W681MSEF |
| 1000               | 51 $\times$ 100                | 7.0                    | 0.20          | 2.01                    | LNT2W102MSEF |
| 1500               | 51 $\times$ 120                | 9.2                    | 0.20          | 2.46                    | LNT2W152MSEF |
| 2200               | 63.5 $\times$ 110              | 11.8                   | 0.20          | 2.98                    | LNT2W222MSEG |
| 2700               | 63.5 $\times$ 130              | 13.8                   | 0.20          | 3.30                    | LNT2W272MSEG |
|                    | 76.2 $\times$ 110              | 14.5                   | 0.20          | 3.30                    | LNT2W272MSEH |
| 3300               | 63.5 $\times$ 150              | 16.5                   | 0.20          | 3.65                    | LNT2W332MSEG |
|                    | 76.2 $\times$ 130              | 17.1                   | 0.20          | 3.65                    | LNT2W332MSEH |
| 3900               | 63.5 $\times$ 170              | 18.3                   | 0.20          | 3.97                    | LNT2W392MSEG |
| 4700               | 76.2 $\times$ 150              | 21.7                   | 0.20          | 4.36                    | LNT2W472MSEH |
| 5600               | 76.2 $\times$ 190              | 26.4                   | 0.20          | 4.76                    | LNT2W562MSEH |
|                    | 90 $\times$ 150                | 24.1                   | 0.20          | 4.76                    | LNT2W562MSEJ |
| 6800               | 90 $\times$ 170                | 28.3                   | 0.20          | 5.00                    | LNT2W682MSEJ |
| 8200               | 90 $\times$ 190                | 32.5                   | 0.20          | 5.00                    | LNT2W822MSEJ |
| 10000              | 90 $\times$ 220                | 35.1                   | 0.20          | 5.00                    | LNT2W103MSEJ |
| 12000              | 90 $\times$ 230                | 39.2                   | 0.20          | 5.00                    | LNT2W123MSEJ |
| 15000              | 90 $\times$ 250                | 45.6                   | 0.20          | 5.00                    | LNT2W153MSEJ |

| 500V (2H)          |                                |                        |               |                         |              |
|--------------------|--------------------------------|------------------------|---------------|-------------------------|--------------|
| Cap.<br>( $\mu$ F) | Size<br>$\phi D \times L$ (mm) | Rated ripple<br>(Arms) | $\tan \delta$ | Leakage Current<br>(mA) | Code         |
| 330                | 51 $\times$ 80                 | 2.7                    | 0.20          | 1.21                    | LNT2H331MSEF |
| 470                | 51 $\times$ 80                 | 3.2                    | 0.20          | 1.45                    | LNT2H471MSEF |
| 680                | 51 $\times$ 100                | 4.2                    | 0.20          | 1.74                    | LNT2H681MSEF |
| 1000               | 51 $\times$ 120                | 5.5                    | 0.20          | 2.12                    | LNT2H102MSEF |
| 1500               | 63.5 $\times$ 110              | 7.1                    | 0.20          | 2.59                    | LNT2H152MSEG |
| 2200               | 63.5 $\times$ 130              | 9.3                    | 0.20          | 3.14                    | LNT2H222MSEG |
| 2700               | 63.5 $\times$ 150              | 11.0                   | 0.20          | 3.48                    | LNT2H272MSEG |
|                    | 76.2 $\times$ 130              | 11.0                   | 0.20          | 3.48                    | LNT2H272MSEH |
| 3300               | 63.5 $\times$ 170              | 12.9                   | 0.20          | 3.85                    | LNT2H332MSEG |
|                    | 76.2 $\times$ 150              | 13.0                   | 0.20          | 3.85                    | LNT2H332MSEH |
| 3900               | 76.2 $\times$ 150              | 14.1                   | 0.20          | 4.18                    | LNT2H392MSEH |
| 4700               | 76.2 $\times$ 190              | 17.2                   | 0.20          | 4.59                    | LNT2H472MSEH |
|                    | 90 $\times$ 150                | 16.3                   | 0.20          | 4.59                    | LNT2H472MSEJ |
| 5600               | 90 $\times$ 150                | 17.8                   | 0.20          | 5.00                    | LNT2H562MSEJ |
| 6800               | 90 $\times$ 170                | 20.7                   | 0.20          | 5.00                    | LNT2H682MSEJ |
| 8200               | 90 $\times$ 220                | 25.5                   | 0.20          | 5.00                    | LNT2H822MSEJ |
| 10000              | 90 $\times$ 250                | 29.9                   | 0.20          | 5.00                    | LNT2H103MSEJ |

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

## ● Frequency coefficient of rated ripple current

| Frequency (Hz) |             | 60   | 120  | 360  | 1k   | 10k or more |
|----------------|-------------|------|------|------|------|-------------|
| Coeff.         | 10 to 100V  | 0.90 | 1.00 | 1.08 | 1.15 | 1.15        |
|                | 160 to 250V | 0.88 | 1.00 | 1.08 | 1.15 | 1.20        |
|                | 350 to 500V | 0.82 | 1.00 | 1.20 | 1.35 | 1.40        |

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