# NL series


- Endurance with ripple current: 12,000 hours at 85°C
- Applications: Professional power supplies, solar and wind generator and frequency converters
- Detail specification:IEC 60384-4
- **RoHS Compliant**

## SPECIFICATIONS

| Items | Characteristics | | |
|---|---|---|---|
| Category Temperature Range | -25~+85°C | | |
| Rated Voltage Range | 350~450 Vdc | | |
| Capacitance Tolerance | ±20% (M) | | (at 20°C, 120Hz) |
| Leakage Current | I=0.02CV [μA] or 5mA, whichever is smaller.<br>Where, I: Max.leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) | | (at 20°C after 5 minutes) |
| Dissipation Factor (tanδ) | 0.20 | | (at 20°C, 120Hz) |
| Low Temperature Characteristics | Capacitance Change | C(-25°C)/C(+20°C)≥0.7 | (at 120Hz) |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage plus the rated ripple current is applied for 12,000 hours at 85°C. | | |
| | Capacitance Change | ≤±20% of the initial value | |
| | Dissipation Factor | ≤200% of the initial specified value | |
| | Leakage Current | ≤The initial specified value | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. | | |
| | Capacitance Change | ≤±20% of the initial value | |
| | Dissipation Factor | ≤150% of the initial specified value | |
| | Leakage current | ≤200% of the initial specified value | |

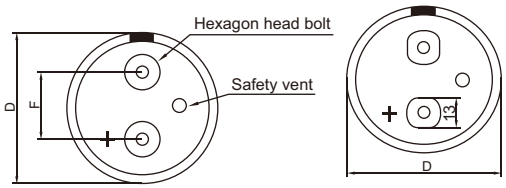
## PART NUMBERING SYSTEM

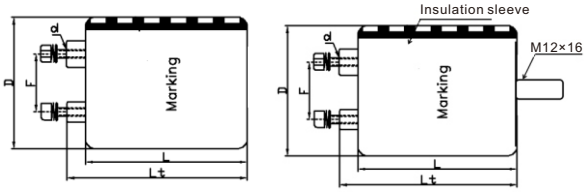
E NL 2G M 472 UB5 A ** C

- C: Sleeve Code: "C" for PVC, "T" for PET
- **: Internal code
- A: Terminal code
- UB5: Size code
- 472: Capacitance code
- M: Capacitance tolerance code
- 2G: Voltage code
- NL: Series code
- E: Category code

| Terminal code | Internal code | Specification |
|---|---|---|
| A | 0 0 | Ring clip mounting Standard design |
| B | 0 0 | threaded stud Standard design |
| S | 0 0 | Ring clip mounting Special design |
| T | 0 0 | threaded stud Special design |

## DIMENSIONS(Screw-Mount)[mm]




| D | 51.6 | 64.3 | 76.9 | 91 |
|---|---|---|---|---|
| F | 22.2 | 28.5 | 31.7 | 31.7 |
| d | M5 | M5 | M6orM5 | M6orM5 |
| L | L+3Max | | | |
| Lt | L+7.5Max | L+7.5Max | L+7.5Max | L+7.5Max |

## RATED RIPPLE CURRENT MULTIPLIERS

- Frequency correction factor for ripple current

| Frequency(Hz) | 50 | 120 | 300 | 1k | 10k |
|---|---|---|---|---|---|
| Coefficient | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 |

# NL series

■ STANDARD RATINGS

| WV ($V_{dc}$) | Cap (μF) | Case size ΦD×L(mm) | tanδ | ESR typ. 120Hz 20°C mΩ | ESR max. 120Hz 20°C mΩ | Rated ripple current (Arms/85°C,120Hz) | Part Number |
|---|---|---|---|---|---|---|---|
| 350 | 1500 | 51.6×80 | 0.20 | 57 | 98 | 6.0 | ENL2VM152S80*00C |
| | 2200 | 51.6×105 | 0.20 | 45 | 78 | 7.8 | ENL2VM222SA5*00C |
| | 3300 | 64.3×115 | 0.20 | 36 | 53 | 10.5 | ENL2VM332TB5*00C |
| | 3900 | 64.3×130 | 0.20 | 32 | 47 | 12.6 | ENL2VM392TD0*00C |
| | 4700 | 76.9×105 | 0.20 | 30 | 43 | 14.0 | ENL2VM472UA5*00C |
| | 5600 | 76.9×115 | 0.20 | 27 | 37 | 15.5 | ENL2VM562UB5*00C |
| | 6800 | 76.9×130 | 0.20 | 23 | 34 | 18.1 | ENL2VM682UD0*00C |
| | 8200 | 76.9×155 | 0.20 | 20 | 28 | 21.5 | ENL2VM822UF5*00C |
| | 10000 | 91×157 | 0.20 | 16 | 24 | 24.6 | ENL2VM103VF7*00C |
| | 12000 | 91×196 | 0.20 | 14 | 22 | 29.0 | ENL2VM123VJ6*00C |
| | 15000 | 91×220 | 0.20 | 11 | 18 | 34.1 | ENL2VM153VM0*00C |
| 400 | 1500 | 51.6×80 | 0.20 | 58 | 89 | 6.1 | ENL2GM152S80*00C |
| | 1800 | 51.6×108 | 0.20 | 56 | 87 | 7.0 | ENL2GM182SA8*00C |
| | 2200 | 51.6×115 | 0.20 | 56 | 81 | 8.2 | ENL2GM222SB5*00C |
| | 2600 | 64.3×108 | 0.20 | 54 | 79 | 8.5 | ENL2GM262TA8*00C |
| | 3300 | 64.3×130 | 0.20 | 37 | 55 | 11.6 | ENL2GM332TD0*00C |
| | 3800 | 76.9×105 | 0.20 | 36 | 54 | 13.6 | ENL2GM332UA5*00C |
| | 3900 | 64.3×155 | 0.20 | 29 | 49 | 15.5 | ENL2GM392TF5*00C |
| | 4700 | 76.9×115 | 0.20 | 26 | 43 | 19.4 | ENL2GM472UB5*00C |
| | 5600 | 76.9×130 | 0.20 | 25 | 40 | 21.3 | ENL2GM562UD0*00C |
| | 6800 | 76.9×155 | 0.20 | 20 | 34 | 23.4 | ENL2GM682UF5*00C |
| | 8200 | 91×157 | 0.20 | 19 | 29 | 24.2 | ENL2GM822VF7*00C |
| | 10000 | 91×168 | 0.20 | 13 | 23 | 30.3 | ENL2GM103VG8*00C |
| | 12000 | 91×196 | 0.20 | 11 | 19 | 35.5 | ENL2GM123VJ6*00C |
| 450 | 1500 | 51.6×115 | 0.20 | 56 | 97 | 7.1 | ENL2WM152SB5*00C |
| | 2200 | 64.3×115 | 0.20 | 43 | 65 | 10.5 | ENL2WM222TB5*00C |
| | 3300 | 64.3×143 | 0.20 | 33 | 49 | 14.8 | ENL2WM332TE3*00C |
| | 3900 | 64.3×155 | 0.20 | 29 | 41 | 16.5 | ENL2WM392TF5*00C |
| | 4700 | 76.9×143 | 0.20 | 22 | 39 | 19.8 | ENL2WM472UE3*00C |
| | 5600 | 76.9×168 | 0.20 | 20 | 35 | 21.9 | ENL2WM562UG8*00C |
| | 6800 | 76.9×196 | 0.20 | 18 | 30 | 26.4 | ENL2WM682UJ6*00C |
| | 8200 | 91×168 | 0.20 | 16 | 24 | 29.6 | ENL2WM822VG8*00C |
| | 10000 | 91×196 | 0.20 | 15 | 21 | 31.8 | ENL2WM103VJ6*00C |

※ Specifications subject to change without notice.