

NF series

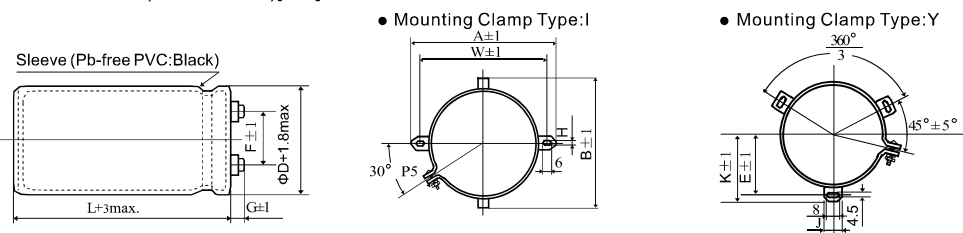
- Endurance with ripple current: 5,000 hours at 105°C
- Applications: Professional power supplies, Frequency converters and Traction
- Detail specification: IEC 60384-4
- RoHS Compliant



SPECIFICATIONS

| Items | Characteristics |
|---------------------------------|--|
| Category Temperature Range | -25~+105°C(350~450 V _{dc}) |
| Surge Voltage | 1.10* V _R |
| Rated Capacitance Range | 1000~15000μF |
| Rated Voltage Range | 350~450 V _{dc} |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) |
| Leakage Current | I=0.02CV [μA] or 5mA, whichever is smaller. Where, I: Max.leakage current (μA), C : Rated 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) |
| Insulation Resistance | When measured between the terminals shorted each other and the mounting clamp on the insulating sleeve covering the case by using an insulation resistance meter of 500V _{dc} , the insulation resistance shall not be less than 100MΩ. |
| Insulation Withstanding Voltage | When a voltage of 2,000Vac is applied for 1 minute between the terminals shorted each other and the mounting clamp on the insulating sleeve covering the case, there shall not be electrical damage. |
| 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 5,000 hours at 105°C. |
| | Capacitance Change ≤±20% of the initial value |
| | D.F. (tanδ) ≤200% of 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 105°C without voltage applied. |
| | Capacitance Change ≤±20% of the initial value |
| | D.F. (tanδ) ≤150% of the initial specified value |

DIMENSIONS(Screw-Mount)[mm]



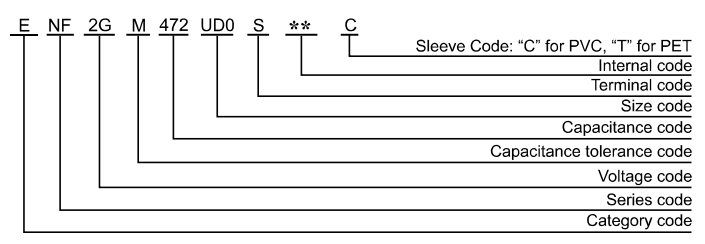
| ∅D | A | B | W | F |
|------|-------|------|------|------|
| 35 | 58.0 | 44.0 | 48.0 | 12.7 |
| 51.6 | 80.0 | 62.0 | 68.0 | 22.2 |
| 64.3 | 93.0 | 82.0 | 81.0 | 28.5 |
| 77 | 106.0 | 94.0 | 93.5 | 31.7 |

| ∅D | E | K | J | F |
|------|------|------|------|------|
| 51.6 | 32.5 | 35.8 | 14.0 | 22.2 |
| 64.3 | 38.4 | 42.5 | 14.0 | 28.5 |
| 77 | 44.5 | 47.5 | 14.0 | 31.7 |
| 91 | 50.8 | 54.7 | 14.0 | 31.7 |

<Screw specifications>
 Plus hexagon-headed screw:
 M5x0.8x10 or M6x1.0x12
 Maximum screw tightening torque:3.23Nm

* The screw and the mounting clamp are separately supplied and not attached to the product.

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

• Frequency Coefficient

| Frequency(Hz) | 50 | 120 | 300 | 1k | 3k |
|---------------|-----|-----|-----|-----|-----|
| Coefficient | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 |

The endurance of capacitors is shortened with internal heating produced by ripple current at the rate of halving the lifetime with every 5 or 10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

Screw-mount Terminal Type

NF 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/105°C, 120Hz) | Part Number |
|-----------------------|----------|--------------------|------|------------------------|------------------------|--|------------------|
| 350(2V) | 1000 | 51.6×80 | 0.20 | 99 | 148 | 4.2 | ENF2VM102S80*00C |
| | 1500 | 51.6×96 | 0.20 | 71 | 107 | 5.3 | ENF2VM152S96*00C |
| | 2200 | 51.6×105 | 0.20 | 49 | 72 | 7.2 | ENF2VM222SA5*00C |
| | 3300 | 64.3×115 | 0.20 | 34 | 50 | 10.0 | ENF2VM332TB5*00C |
| | 3900 | 64.3×130 | 0.20 | 30 | 45 | 11.7 | ENF2VM392TD0*00C |
| | 4700 | 64.3×143 | 0.20 | 26 | 39 | 12.6 | ENF2VM472TE3*00C |
| | 5600 | 76.9×143 | 0.20 | 21 | 32 | 14.9 | ENF2VM562UE3*00C |
| | 6800 | 76.9×168 | 0.20 | 19 | 28 | 17.0 | ENF2VM682UG8*00C |
| | 8200 | 76.9×196 | 0.20 | 15 | 25 | 19.8 | ENF2VM822UJ6*00C |
| | 10000 | 76.9×220 | 0.20 | 13 | 20 | 23.2 | ENF2VM103UM0*00C |
| | 12000 | 91×196 | 0.20 | 11 | 16 | 26.9 | ENF2VM123VJ6*00C |
| 15000 | 91×220 | 0.20 | 9 | 13 | 30.9 | ENF2VM153VM0*00C | |
| 400(2G) | 1000 | 51.6×80 | 0.20 | 101 | 151 | 4.4 | ENF2GM102S80*00C |
| | 1500 | 51.6×96 | 0.20 | 67 | 98 | 5.9 | ENF2GM152S96*00C |
| | 2200 | 64.3×105 | 0.20 | 48 | 68 | 7.4 | ENF2GM222TA5*00C |
| | 3300 | 64.3×130 | 0.20 | 30 | 45 | 10.5 | ENF2GM332TD0*00C |
| | 3900 | 76.9×115 | 0.20 | 27 | 39 | 11.3 | ENF2GM392UB5*00C |
| | 4700 | 76.9×130 | 0.20 | 22 | 32 | 14.0 | ENF2GM472UD0*00C |
| | 5600 | 76.9×143 | 0.20 | 20 | 28 | 15.1 | ENF2GM562UE3*00C |
| | 6800 | 76.9×168 | 0.20 | 17 | 23 | 18.0 | ENF2GM682UG8*00C |
| | 8200 | 76.9×196 | 0.20 | 15 | 21 | 21.3 | ENF2GM822UJ6*00C |
| | 10000 | 76.9×220 | 0.20 | 13 | 19 | 22.1 | ENF2GM103UM0*00C |
| | 12000 | 91×220 | 0.20 | 9 | 13 | 27.6 | ENF2GM123VM0*00C |
| 450(2W) | 1000 | 51.6×105 | 0.20 | 97 | 145 | 4.3 | ENF2WM102SA5*00C |
| | 1500 | 51.6×130 | 0.20 | 65 | 97 | 6.1 | ENF2WM152SD0*00C |
| | 2200 | 64.3×115 | 0.20 | 45 | 67 | 7.8 | ENF2WM222TB5*00C |
| | 3300 | 76.9×130 | 0.20 | 29 | 43 | 10.8 | ENF2WM332UD0*00C |
| | 3900 | 76.9×143 | 0.20 | 25 | 37 | 12.9 | ENF2WM392UE3*00C |
| | 4700 | 76.9×168 | 0.20 | 22 | 32 | 14.3 | ENF2WM472UG8*00C |
| | 5600 | 76.9×196 | 0.20 | 19 | 28 | 14.7 | ENF2WM562UJ6*00C |
| | 6800 | 76.9×220 | 0.20 | 16 | 23 | 18.1 | ENF2WM682UM0*00C |
| | 8200 | 91×196 | 0.20 | 12 | 17 | 19.7 | ENF2WM822VJ6*00C |
| | 10000 | 91×220 | 0.20 | 10 | 15 | 23.5 | ENF2WM103VM0*00C |

Note: "*" may be "A" or "B" or "S" or "T".
 A: Ring clip mounting standard design
 B: Threaded stud standard design
 S: Ring clip mounting special design
 T: Threaded stud special design