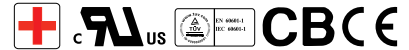




■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Over load / Over voltage / Over temperature
- Ultra-miniature size, light weight
- Cooling by free air convection
- Isolation class II
- ANSI/AAMI ES60601-1/IEC60601-1/EN60601-1 medical safety approved
- No load power consumption<0.5W
- 100% full load burn-in test
- Fixed switching frequency at 67KHz
- High reliability
- 3 years warranty

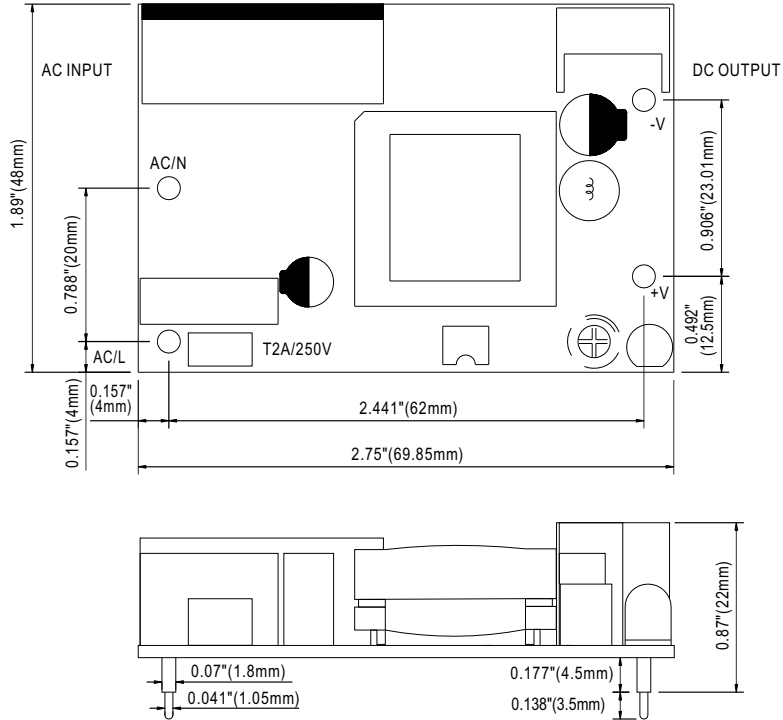


**SPECIFICATION**

| MODEL                 | NFM-15-3.3  | NFM-15-5   | NFM-15-12    | NFM-15-15    | NFM-15-24      |              |
|-----------------------|---|--|--------------|--------------|----------------|--------------|
| OUTPUT                | DC VOLTAGE  | 3.3V   | 5V           | 12V          | 15V            | 24V          |
|                       | RATED CURRENT   | 3.5A   | 3A           | 1.25A        | 1A             | 0.63A        |
|                       | CURRENT RANGE   | 0 ~ 3.5A   | 0 ~ 3A       | 0 ~ 1.25A    | 0 ~ 1A         | 0 ~ 0.63A    |
|                       | RATED POWER   | 11.55W   | 15W          | 15W          | 15W            | 15.12W       |
|                       | RIPPLE & NOISE (max.) Note.2  | 80mVp-p  | 80mVp-p      | 150mVp-p     | 150mVp-p       | 240mVp-p     |
|                       | VOLTAGE ADJ. RANGE  | 3 ~ 3.63V  | 4.5 ~ 5.5V   | 10.8 ~ 13.2V | 13.5 ~ 16.5V   | 21.6 ~ 26.4V |
|                       | VOLTAGE TOLERANCE Note.3  | ±2.0%  | ±2.0%        | ±1.0%        | ±1.0%          | ±1.0%        |
|                       | LINE REGULATION   | ±1.0%  | ±1.0%        | ±0.5%        | ±0.5%          | ±0.5%        |
|                       | LOAD REGULATION   | ±1.0%  | ±1.0%        | ±0.5%        | ±0.5%          | ±0.5%        |
|                       | SETUP, RISE TIME  | 1000ms, 20ms/230VAC      1000ms, 20ms/115VAC at full load  |              |              |                |              |
| HOLD UP TIME (Typ.)   | 100ms/230VAC      24ms/115VAC at full load  |  |              |              |                |              |
| INPUT                 | VOLTAGE RANGE   | 85 ~ 264VAC      120 ~ 370VDC  |              |              |                |              |
|                       | FREQUENCY RANGE   | 47 ~ 440Hz   |              |              |                |              |
|                       | EFFICIENCY (Typ.)   | 73%  | 76%          | 78%          | 79%            | 81%          |
|                       | AC CURRENT (Typ.)   | 0.35A/115VAC      0.2A/230VAC  |              |              |                |              |
|                       | INRUSH CURRENT (Typ.)   | COLD START 30A/115VAC      50A/230VAC  |              |              |                |              |
| PROTECTION            | OVERLOAD  | Above 105% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                          |              |              |                |              |
|                       | OVER VOLTAGE  | 3.8 ~ 4.95V  | 5.75 ~ 6.75V | 13.8 ~ 16.2V | 17.25 ~ 20.25V | 27.6 ~ 32.4V |
|                       | OVER TEMPERATURE Note.5   | Tj 140°C typically (U1) detect on main control IC<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |              |              |                |              |
| ENVIRONMENT           | WORKING TEMP.   | -20 ~ +70°C (Refer to "Derating Curve")  |              |              |                |              |
|                       | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing   |              |              |                |              |
|                       | STORAGE TEMP., HUMIDITY   | -40 ~ +85°C, 10 ~ 95% RH   |              |              |                |              |
|                       | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C)   |              |              |                |              |
|                       | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |              |              |                |              |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS  | ANSI/AAMI ES60601-1, TUV EN60601-1, IEC60601-1 approved  |              |              |                |              |
|                       | WITHSTAND VOLTAGE   | I/P-O/P:4KVAC  |              |              |                |              |
|                       | ISOLATION RESISTANCE  | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH   |              |              |                |              |
|                       | EMC EMISSION  | Compliance to EN55011(CISPR11), EN55022 (CISPR22) Class B, EN61000-3-2,-3  |              |              |                |              |
|                       | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2, EN61204-3, medical level, criteria A   |              |              |                |              |
| OTHERS                | MTBF  | 499.7Khrs min.      MIL-HDBK-217F (25°C)   |              |              |                |              |
|                       | DIMENSION   | 70*48*22mm (L*W*H)   |              |              |                |              |
|                       | PACKING   | 0.065Kg; 120pcs/8.8Kg/0.97CUFT   |              |              |                |              |
| NOTE                  | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</p> <p>5. The over temperature protection (OTP) is the built-in function of the control IC (U1). The activating level described above is based on the specification provided by the IC manufacturer.</p> |  |              |              |                |              |

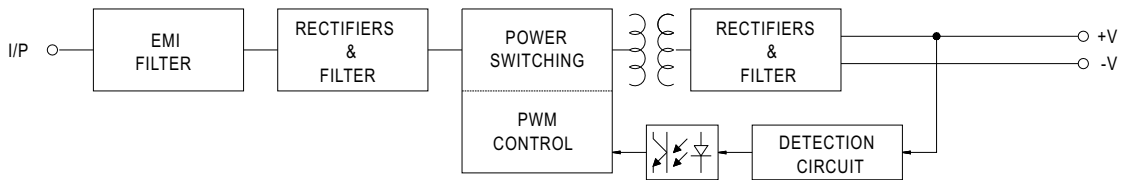
**Mechanical Specification**

Unit:inch(mm)

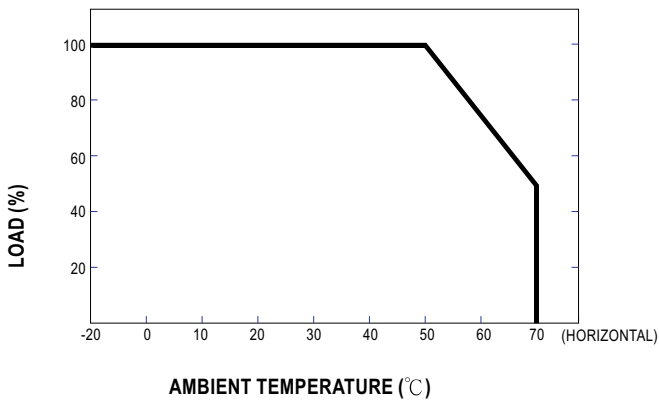


**Block Diagram**

fosc : 67KHz



**Derating Curve**



**Output Derating VS Input Voltage**

