



**Features**

- Universal AC input / Full range
- No load power consumption < 0.075W
- Compact size
- Comply with EN55032 Class B without any additional components
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Isolation Class II
- High reliability, low cost
- 3 years warranty

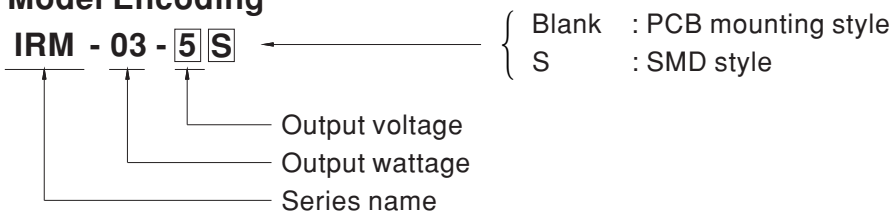
**Applications**

- Industrial electrical equipment
- Mechanical equipment
- Factory automation equipment
- Handheld electronic device

**Description**

IRM-03 is a 3W miniature (37\*24\*15mm) AC-DC module-type power supply, ready to be soldered onto the PCB boards of various kinds of electronic instruments or industrial automation equipments. This product allows a universal input voltage range of 85~305VAC. The phenolic case and the fully-potted silicone enhance the heat dissipation and meet the anti-vibration demand up to 5G; moreover, it provides the fundamental resistance to dust and moisture. With the high efficiency up to 80% and the extremely low no-load power consumption below 0.075W, IRM-03 series fulfills the worldwide regulation for the low power consumption requirement for electronics. The entire series is a Class II design (no FG pin), incorporating the built-in EMI filtering components, enabling the compliance with EN55032 Class B; the supreme EMC features keep the end electronic units from electromagnetic interference. In addition to module-type model, IRM-03 series also offers the SMD style model.

**Model Encoding**

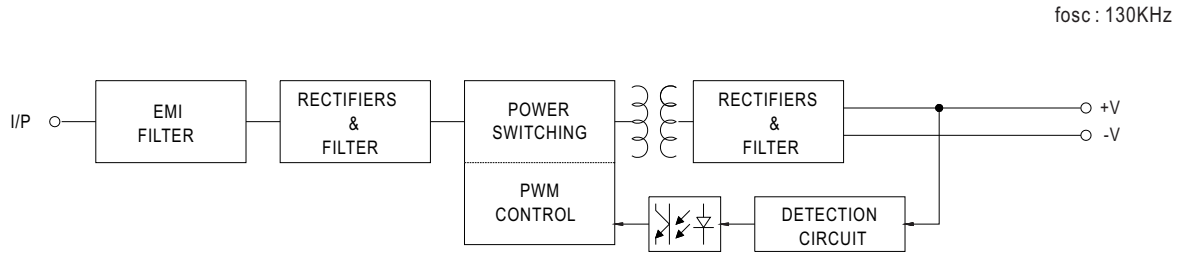




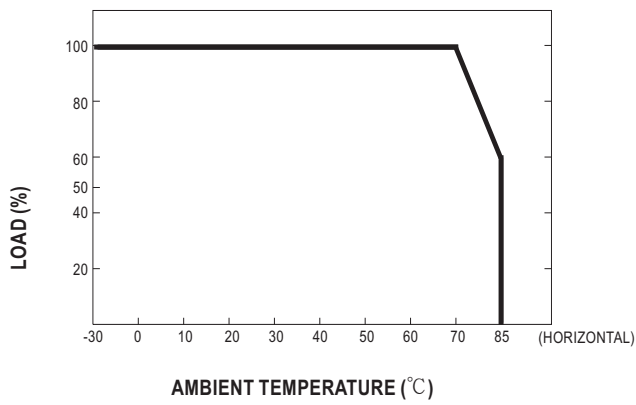
## SPECIFICATION

| MODEL        |  | IRM-03-3.3   | IRM-03-5    | IRM-03-9     | IRM-03-12    | IRM-03-15     | IRM-03-24    |
|--------------|--|--|-------------|--------------|--------------|---------------|--------------|
| OUTPUT       | DC VOLTAGE   | 3.3V   | 5V          | 9V           | 12V          | 15V           | 24V          |
|              | RATED CURRENT  | 900mA  | 600mA       | 333mA        | 250mA        | 200mA         | 125mA        |
|              | CURRENT RANGE  | 0 ~ 900mA  | 0 ~ 600mA   | 0 ~ 333mA    | 0 ~ 250mA    | 0 ~ 200mA     | 0 ~ 125mA    |
|              | RATED POWER  | 3W   | 3W          | 3W           | 3W           | 3W            | 3W           |
|              | RIPPLE & NOISE (max.) Note.2   | 100mVp-p   | 100mVp-p    | 100mVp-p     | 150mVp-p     | 200mVp-p      | 240mVp-p     |
|              | VOLTAGE TOLERANCE Note.3   | ±2.5%  | ±2.5%       | ±2.5%        | ±2.5%        | ±2.5%         | ±2.5%        |
|              | LINE REGULATION  | ±0.5%  | ±0.5%       | ±0.5%        | ±0.5%        | ±0.5%         | ±0.5%        |
|              | LOAD REGULATION  | ±1.0%  | ±0.5%       | ±0.5%        | ±0.5%        | ±0.5%         | ±0.5%        |
|              | SETUP, RISE TIME   | 600ms, 30ms/230VAC      600ms, 30ms/115VAC at full load  |             |              |              |               |              |
|              | HOLD UP TIME (Typ.)  | 40ms/230VAC      8ms/115VAC at full load   |             |              |              |               |              |
| INPUT        | VOLTAGE RANGE  | 85 ~ 305VAC 120~430VDC   |             |              |              |               |              |
|              | FREQUENCY RANGE  | 47 ~ 63Hz  |             |              |              |               |              |
|              | EFFICIENCY (Typ.)  | 68%  | 72%         | 77%          | 78%          | 78%           | 80%          |
|              | AC CURRENT (Typ.)  | 70mA/115VAC  | 40mA/230VAC | 35mA/277VAC  |              |               |              |
|              | INRUSH CURRENT (Typ.)  | 10A/115VAC   | 20A/230VAC  |              |              |               |              |
|              | LEAKAGE CURRENT  | < 0.25mA/277VAC  |             |              |              |               |              |
| PROTECTION   | OVERLOAD   | 105%~260% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed   |             |              |              |               |              |
|              | OVER VOLTAGE   | 3.8 ~ 4.9V   | 5.2~ 6.8V   | 10.3 ~ 12.2V | 12.6 ~ 16.2V | 15.75 ~ 20.3V | 25.2 ~ 32.4V |
| ENVIRONMENT  | WORKING TEMP.  | -30 ~ +85°C (Refer to "Derating Curve")  |             |              |              |               |              |
|              | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing   |             |              |              |               |              |
|              | STORAGE TEMP., HUMIDITY  | -40 ~ +100°C, 10 ~ 95% RH  |             |              |              |               |              |
|              | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 50°C)   |             |              |              |               |              |
|              | VIBRATION  | 10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes  |             |              |              |               |              |
|              | LEAD TEMPERATURE   | 260°C, 10s (max.)  |             |              |              |               |              |
| SAFETY & EMC | SAFETY STANDARDS   | UL62368-1, TUV EN62368, TUV EN60335-1, EAC TP TC 004, BSMI CNS14336-1 approved, design refer to EN61558-2-16 , IEC60601-1 (By request)   |             |              |              |               |              |
|              | WITHSTAND VOLTAGE  | I/P-O/P:3KVAC  |             |              |              |               |              |
|              | ISOLATION RESISTANCE   | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH   |             |              |              |               |              |
|              | EMC EMISSION   | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020, CNS13438 Class B   |             |              |              |               |              |
| OTHERS       | EMC IMMUNITY   | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, heavy industry level (surge L-N : 1KV), criteria A, EAC TP TC 020   |             |              |              |               |              |
|              | MTBF   | 2137.6Khrs min. MIL-HDBK-217F (25°C)   |             |              |              |               |              |
|              | DIMENSION  | PCB mounting style : 37*24*15mm (L*W*H)      SMD style : 37*24*16mm (L*W*H)  |             |              |              |               |              |
| PACKING      | PCB mounting style : 0.026Kg;560pcs/15.3Kg/0.96CUFT      SMD style :0.026Kg;560pcs/15.3Kg/0.96CUFT |  |             |              |              |               |              |
|              | NOTE   | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>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.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> |             |              |              |               |              |

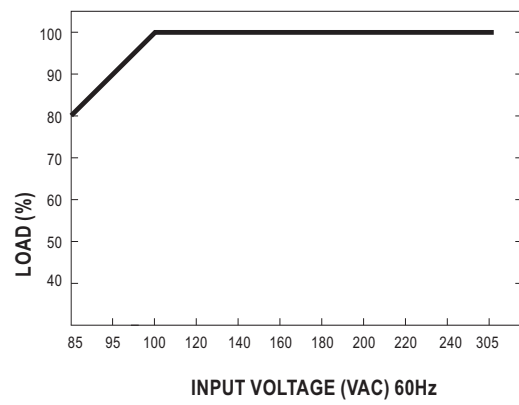
■ Block Diagram



■ Derating Curve



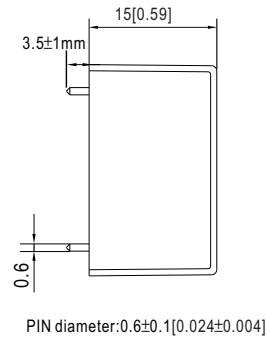
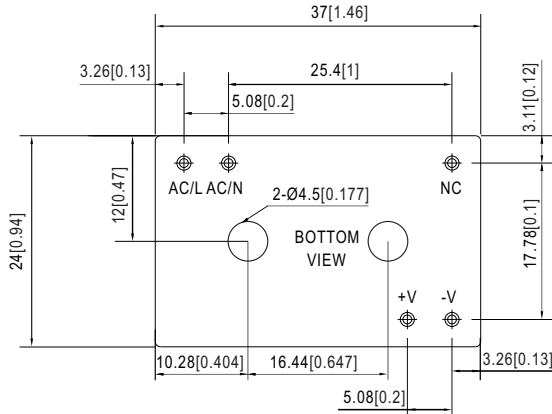
■ Output Derating VS Input Voltage



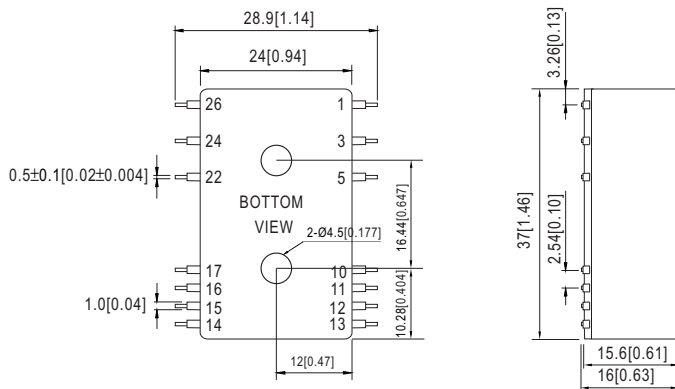
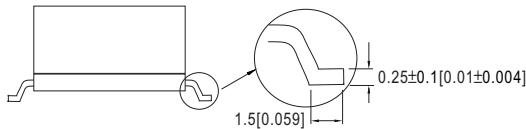
**Mechanical Specification**

Case No. IRM03 Unit: mm[inch]  
 Tolerance:  $\pm 0.5[\pm 0.02]$   
 unless otherwise specified

• PCB mounting style

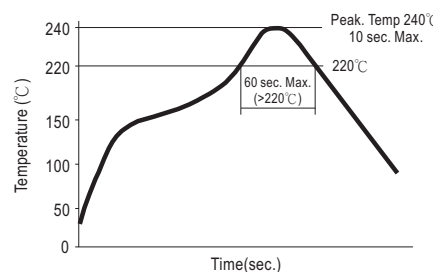
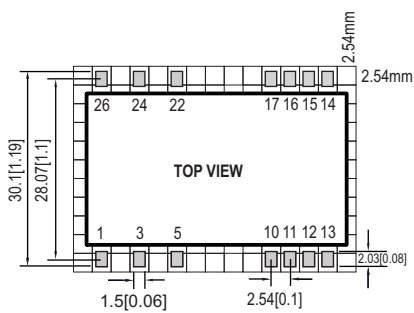


• SMD style



| Pin NO. | Assignment |
|---------|------------|
| 1       | AC/L       |
| 3       | AC/N       |
| 14      | -Vo        |
| 16      | +Vo        |
| others  | NC         |

**Recommended PCB layout (for SMD style) (Reflow soldering method available)**



Remark : The curve applies only to the " Hot Air Reflow Soldering"

**Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>