Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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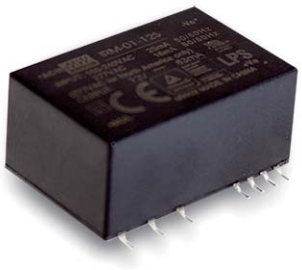


Features

- 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

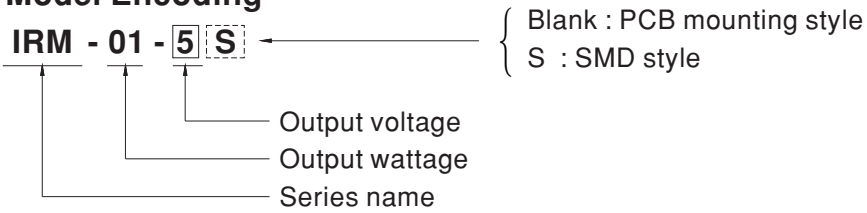
Applications

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

Description

IRM-01 is a 1W miniature (33.7*22.2*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 77% and the extremely low no-load power consumption below 0.075W, IRM-01 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-01 series also offers the SMD style model.

Model Encoding

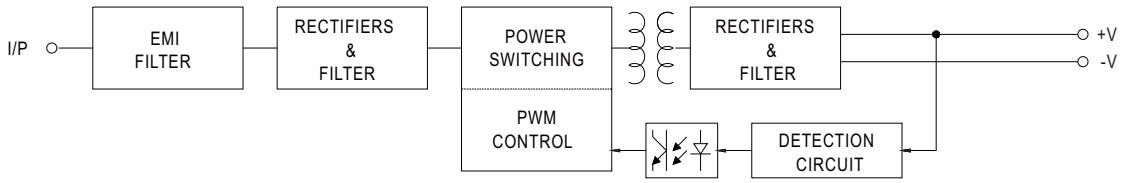


SPECIFICATION

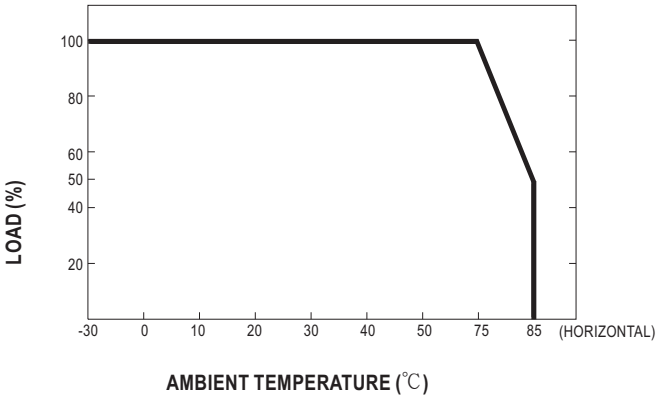
MODEL		IRM-01-3.3	IRM-01-5	IRM-01-9	IRM-01-12	IRM-01-15	IRM-01-24
OUTPUT	DC VOLTAGE	3.3V	5V	9V	12V	15V	24V
	RATED CURRENT	300mA	200mA	111mA	83mA	67mA	42mA
	CURRENT RANGE	0 ~ 300mA	0 ~ 200mA	0 ~ 111mA	0 ~ 83mA	0 ~ 67mA	0 ~ 42mA
	RATED POWER	1W	1W	1W	1W	1W	1W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-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	±0.5%	±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 12ms/115VAC at full load					
INPUT	VOLTAGE RANGE	85 ~ 305VAC 120 ~ 430VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	66%	70%	72%	74%	75%	77%
	AC CURRENT (Typ.)	25mA/115VAC 18mA/230VAC 16mA/277VAC					
	INRUSH CURRENT (Typ.)	5A/115VAC 10A/230VAC					
	LEAKAGE CURRENT	< 0.25mA/277VAC					
PROTECTION	OVERLOAD	≥110% rated output power					
		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	15.7 ~ 20.3V	25.2 ~ 32.4V
		Protection type : Shut off o/p voltage, clamping by zener diode					
ENVIRONMENT	WORKING TEMP.	-30 ~ +85℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +100℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 75℃)					
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	LEAD TEMPERATURE	260℃,10s (max.)					
SAFETY & EMC	SAFETY STANDARDS	UL60950-1, TUV EN60950-1, EAC TP TC 004 approved, Design refer to EN61558-1/-2-16					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC					
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020					
	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					
OTHERS	MTBF	1960Khrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	PCB mounting style : 33.7*22.2*15mm (L*W*H) SMD style : 33.7*22.2*16mm (L*W*H)					
	PACKING	PCB mounting style : 0.024Kg; 640pcs/ 16.3 Kg/ 0.95CUFT SMD style : 0.024Kg; 640 pcs/ 16.3 Kg/ 0.95CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).						

■ Block Diagram

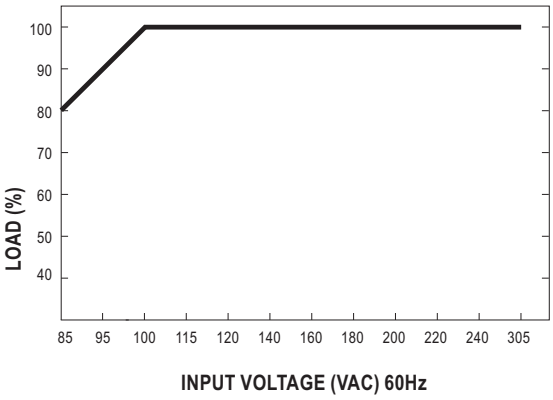
fosc : 130KHz



■ Derating Curve



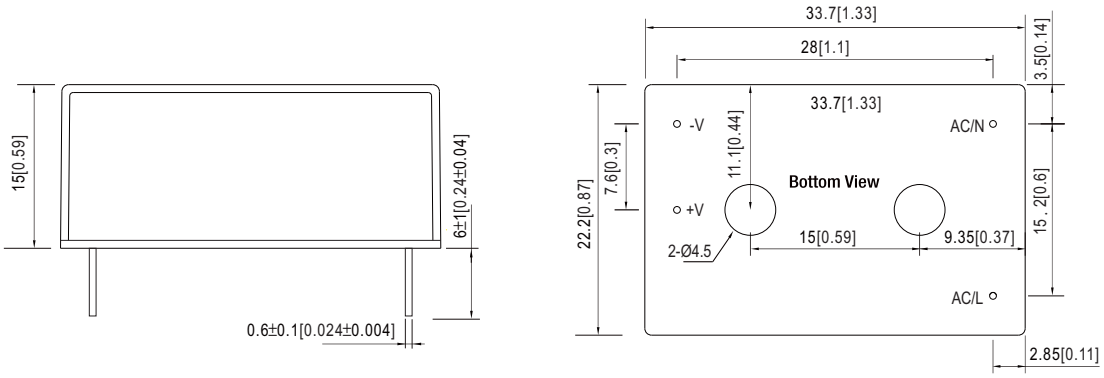
■ Static Characteristics



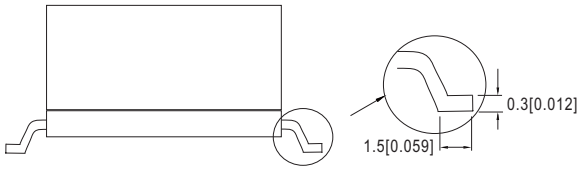
■ Mechanical Specification

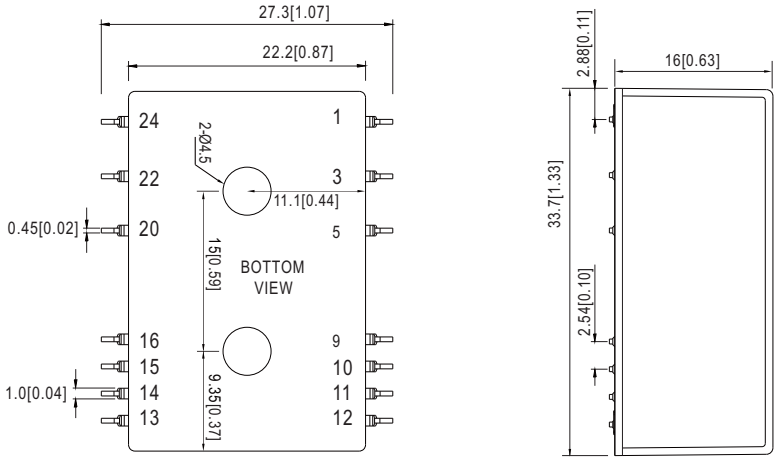
Case No.IRM02 Unit:mm[inch]
Tolerance:±0.5[±0.02]
unless otherwise specified

◎ PCB mounting style



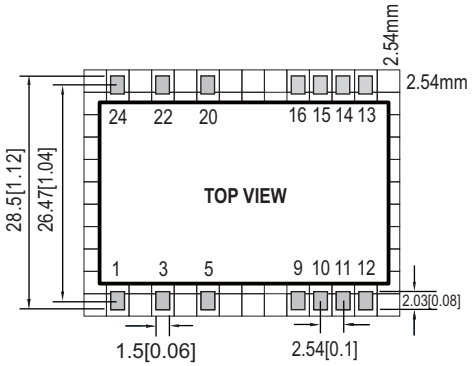
◎ SMD style

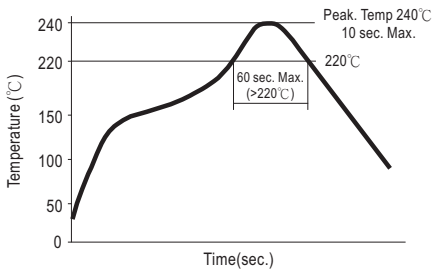




Pin No.	Assignment
1	AC/L
24	AC/N
13	-Vo
12	+Vo
others	N.C.

■ 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