

**SPECIFICATION**

and

**PERFORMANCE**

for

SWITCHING POWER SUPPLY

**M/N : SNP-A047-M**

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Reviewed by Project Manager	Jm 7-18-19					
Typed by Document Assistant	李瑞英 031519					
SKYNET ELECTRONIC			LAST REV. NO.			

## 1.0 INTRODUCTIONS

The Skynet model SNP-A047-M is made for an external desktop usage 42 watts +12V single output switch mode power supply with universal AC input for medical application.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is from 85VAC to 264VAC and the nominal line voltage is 115V/230V. Label voltage is 100 – 240VAC.

### 2.2 Input Frequency

The range of input frequency is from 47Hz to 63Hz.

### 2.3 Input Current

The maximum input current is 1.5A at 115VAC or 0.7A at 230VAC.

### 2.4 No load input power

< 0.3W at 240Vac/50Hz

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

output	min. load	rated load	peak load	voltage accuracy
+12V	0A	3.5A	5.6A	11.4V to 12.6V

At factory, the output is set between 11.90V to 12.30V at 60% rated load and nominal line conditions.

The peak load can be supplied 15sec typ. at nominal line input.

### 3.2 Ripple and noise

The peak to peak ripple and noise for the output is less than 100mV at rated load and nominal input. Measuring is done by 15MHz bandwidth limited oscilloscope and terminated the output with a 0.47uF capacitor.

### 3.3 Line regulation

The line regulation for the output is less than + -1% while measuring at rated load and + -10% of nominal line input voltage changing.

### 3.4 Load regulation

The load regulation for the output is less than + -2%. Measuring is done by changing the output load + -40% from 60% rated load and nominal line.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is 83% typ. while measuring at nominal line and rated load.

### 4.2 Hold up time

The hold up time is 16mS typ. at 115VAC input and rated load, which is measured from the end of the last charging pulse to when the main output drops down to 95% output voltage.

### 4.3 Protection

For some reason the power supply fails to control itself, the build-in over voltage protection circuit will shut down the output to avoid damaging external circuits.

The trip point of crowbar circuit is around 13.5V to 16V. The power supply will go into hiccup mode against short circuit or over load conditions and will auto-recovery while faulty condition is removed.

## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

-20°C to 60°C, -20C to 40C no derating, above 40 °C , derate at 2.5% per degree from 40 °C to 60 °C

### 5.2 Storage temperature

-20°C to 85°C

### 5.3 Operating humidity

5 ~95% RH, non-condensing .

### 5.4 Altitude

Will operate properly at any altitude between 0 to 10000 ft.

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following standards :

UL 2601

CSA 22.2 NO.601.1

EN 60601-1

### 6.2 EMI standards

Designed to meet the following limits :

EN55022 "B"

FCC docket 20780 curve "B"

EN61000-3-2

EN61000-3-3

### 6.3 EMS standards

Designed to meet the following standards :

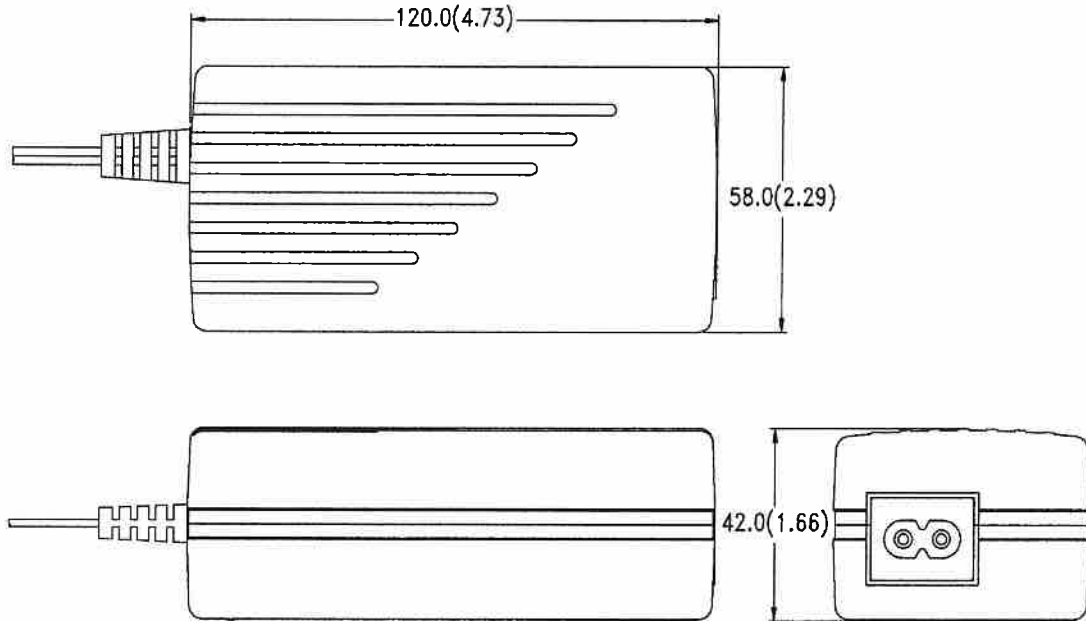
EN61000-4-2	8kV/contact discharge, 15kV/air discharge	Criterion A
EN61000-4-3	10V/M with 80% AM	Criterion A
EN61000-4-4	2kV (100KHz)	Criterion A
EN61000-4-5	Line to Line 2kV	Criterion A
EN61000-4-6	10V with 80% AM	Criterion A
EN61000-4-8	30A/m	Criterion A
EN61000-4-11	30% dips 500ms,	Criterion A
	60% dips 200ms,	Criterion B
	100% dips 10ms,	Criterion A
	100% dips 5000ms,	Criterion B
	100% dips 20ms,	Criterion B

### 6.4 Energy saving standards

Designed to meet the following standards :

CEC (California Energy Commission) Efficiency  
Level IV

**7.0 MECHANICAL SPECIFICATION**



**7.1 Dimensions**

Dimensions shown in mm (inch)  
Tolerance is  $\pm 1$ mm (Excluding cables)

**7.2 Connectors**

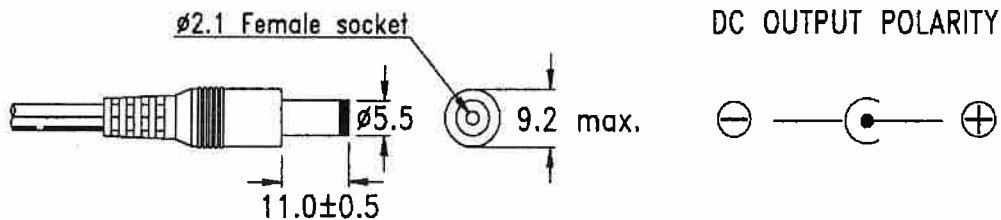
AC input : Meet IEC 320 C8 standard  
DC output : 2.1 DIA. socket type DC power jack (Cable length : 6ft approx.)

**7.3 Color**

Black

**7.4 DC output pin assignment**

(See drawing below)

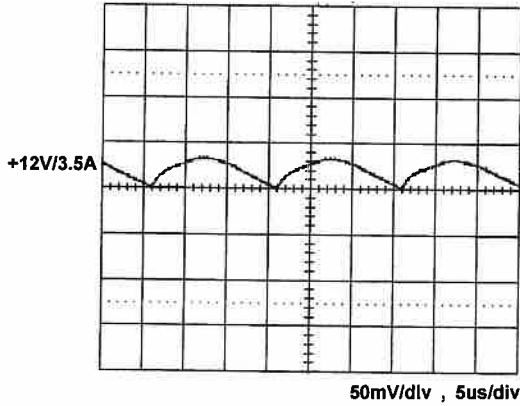


**7.5 Packing**

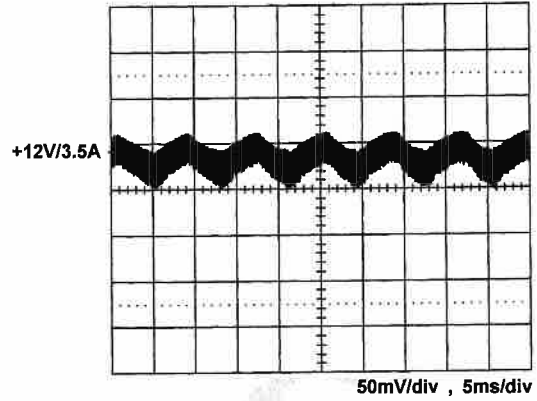
Net weight : 275 g approx. / unit  
Carton size (mm) : 549 (L) x 490 (W) x 241 (H)  
Quantity : 48 units / carton  
Gross weight : 17.0 kg approx. / carton

**8.0 PERFORMANCE (input voltage is 115VAC, unless others specified)**

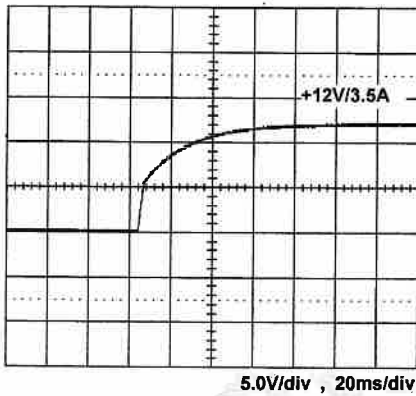
**8.1 Switching frequency ripple**



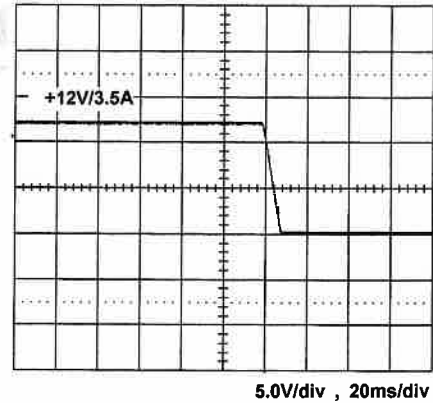
**8.2 Line frequency ripple**



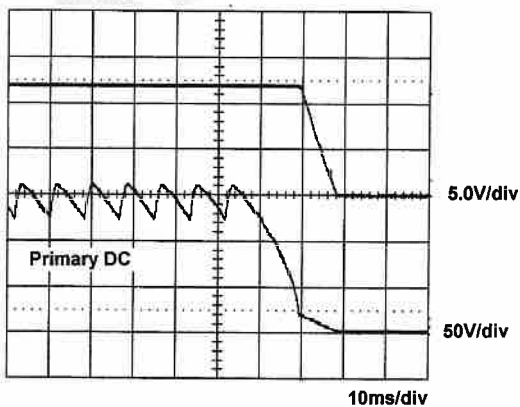
**8.3 Output turn on wave form**



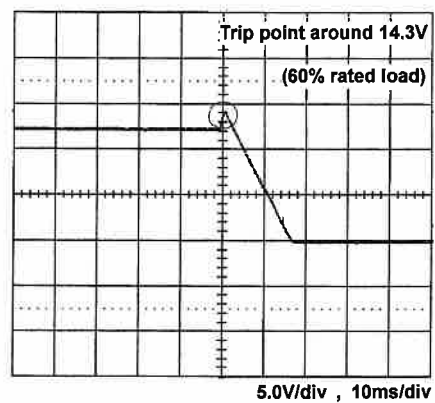
**8.4 Output turn off wave form**



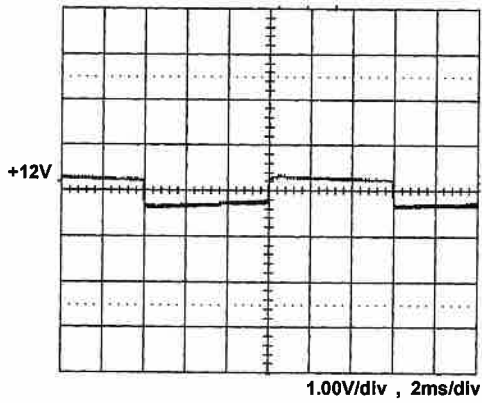
**8.5 Hold-up time**



**8.6 Over voltage protection**

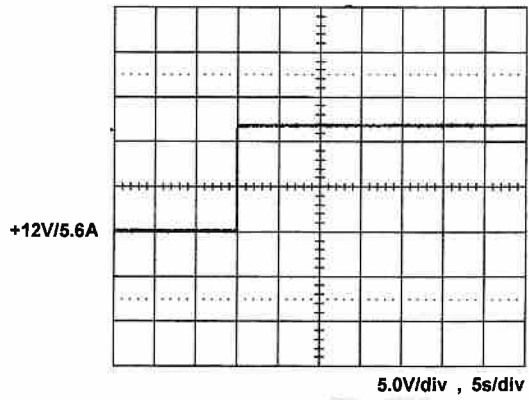


8.7 +12V Step Response



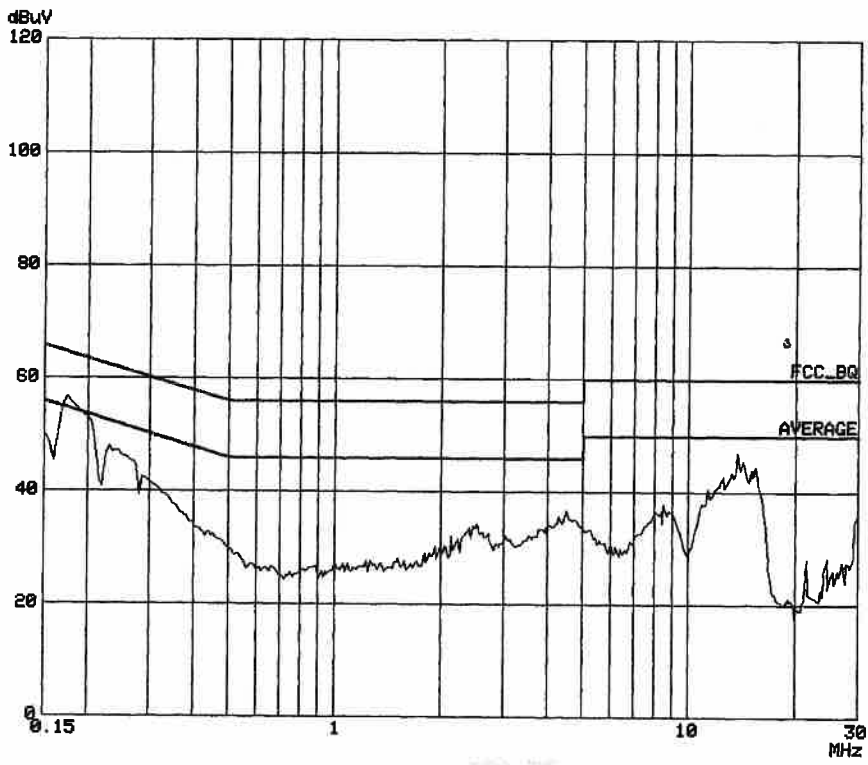
+12V step from 0.7A to 3.5A

8.8 Peak load



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8.8 FCC B performance



8.9 EN55022 B

