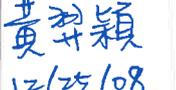


**SPECIFICATION**  
and  
**PERFORMANCE**  
for

SWITCHING POWER SUPPLY

**M/N : SNP-A039-M**

Reviewed by Project Manager	 03/14/09	 12/25/08	Jim 1-19-19			
Typed by Document Assistant	 03/14/09	 12/25/08	 01/16/19			
<b>SKYNET ELECTRONIC</b>			<b>LAST REV. NO.</b>			

## 1.0 INTRODUCTIONS

The Skynet model SNP-A039-M is made for an external desktop usage 30 watts +24V single output switch mode power supply with universal AC input.

## 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 1A at 115VAC or 0.5A at 230VAC.

### 2.4 Inrush Current

The inrush current will not exceed 30A at 115VAC input or 60A at 230VAC input, cold start, 25°C.

### 2.5 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
+24V	0A	1.3A	1.8A	22.80V to 25.20V

At factory, the output is set between 23.90V to 25.10V 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 86% typ. while measuring at nominal line and rated load.

### 4.2 Hold up time

The hold up time is longer than 16mS 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 26.2V to 31.0V. 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, -20°C to 40°C 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 3000m.

**6.0 INTERNATIONAL STANDARDS**

**6.1 Safety standards**

Designed to meet the following standards :

- UL 60601-1
- CSA 22.2 NO.60610-1
- EN 60601-1
- IEC 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 :

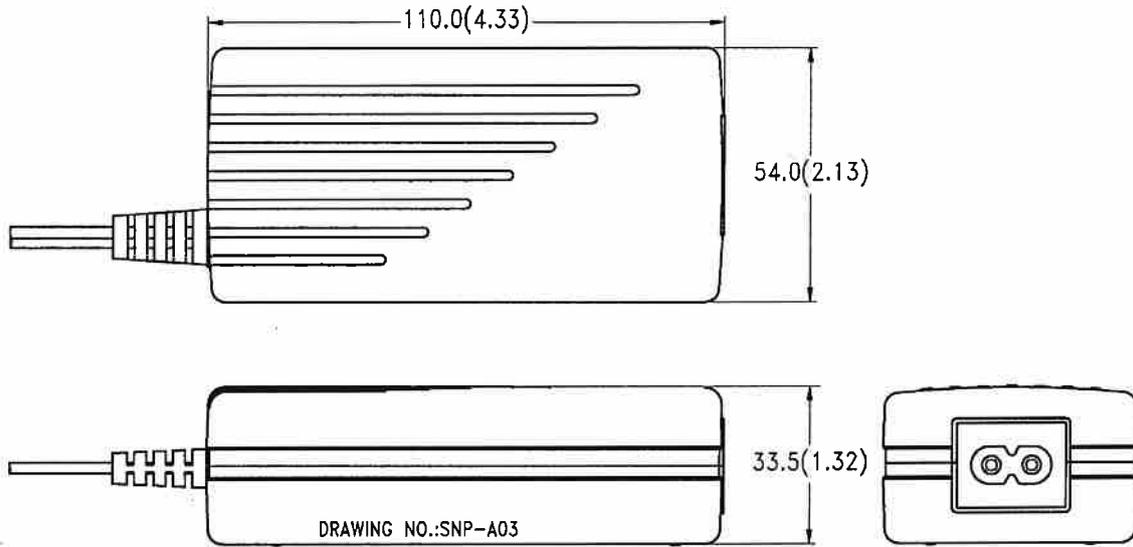
EN61000-4-2	8kV/contact discharge, 15kV/air discharge	Criterion A
EN61000-4-3	10V/M with 80% AM	Criterion A
EN61000-4-4	2kV (100KHz)	Criterion A
EN61000-4-5	2kV	Criterion A
EN61000-4-6	10V with 80% AM	Criterion A
EN61000-4-8	30A/m	Criterion A
EN61000-4-11	30% dips 500ms,	Criterion A
	60% dips 200ms,	Criterion B
	100% dips 10ms,	Criterion A
	100% dips 20ms,	Criterion B
	100% dips 5000ms,	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 specified is  $\pm 1$  (0.039), Excluding cable.

**7.2 Connectors**

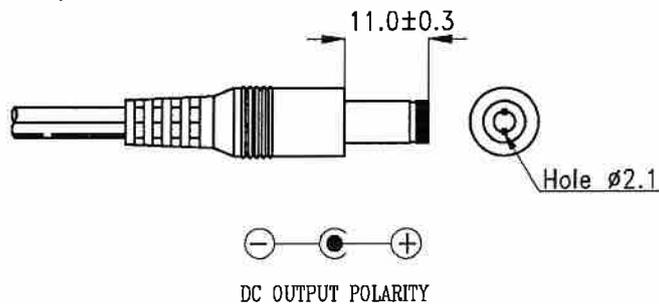
- AC input : Meet IEC 320 C8 standard
- DC output : (OD = 5.5mm ID = 2.1mm) concentric barrel plug,  
Cable length : 153cm (5ft) approx

**7.3 Color**

Black

**7.4 DC output pin assignment**

(See drawing below)

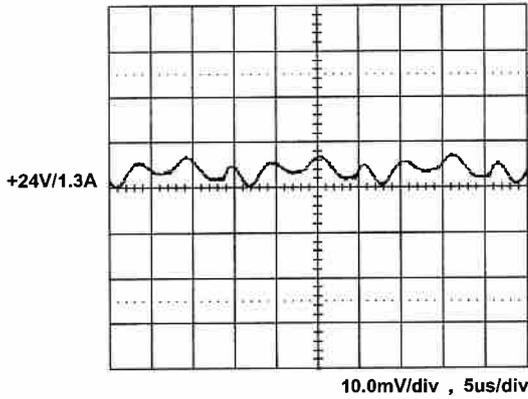


**7.5 Packing**

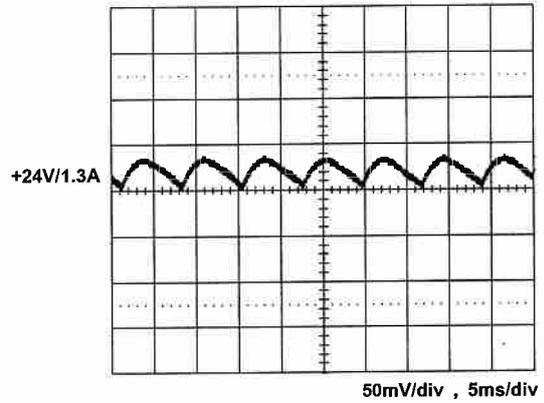
- Net weight : 225 a approx. / unit
- Carton size (mm) : 512 (L) x 354 (W) x 343 (H)
- Quantity : 60 units / carton
- Gross weight : 16.7 kg approx. / carton

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

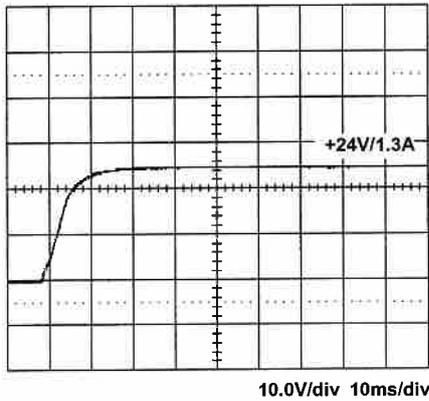
8.1 Switching frequency ripple



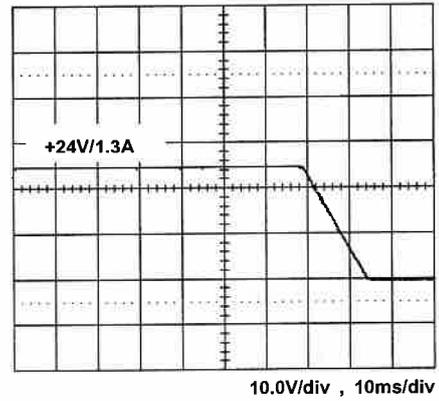
8.2 Line frequency ripple



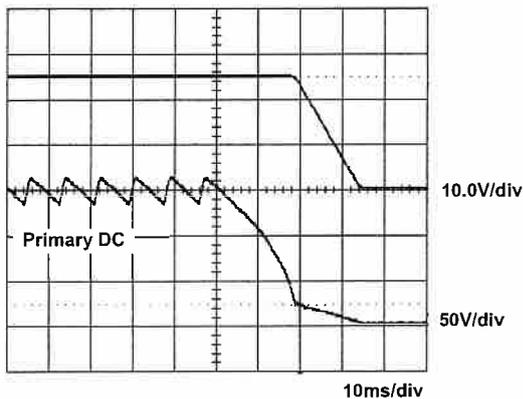
8.3 Output turn on wave form



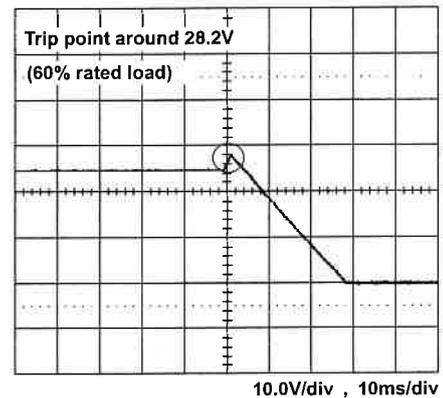
8.4 Output turn off wave form



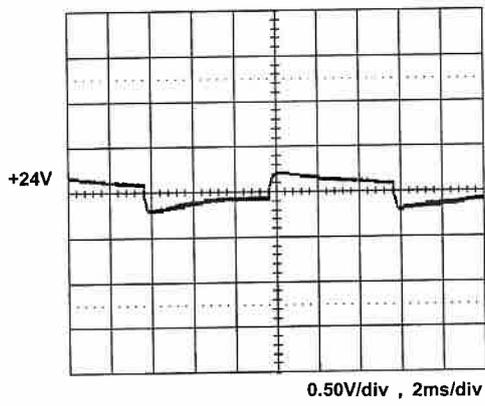
8.5 Hold-up time



8.6 +24V Over voltage protection

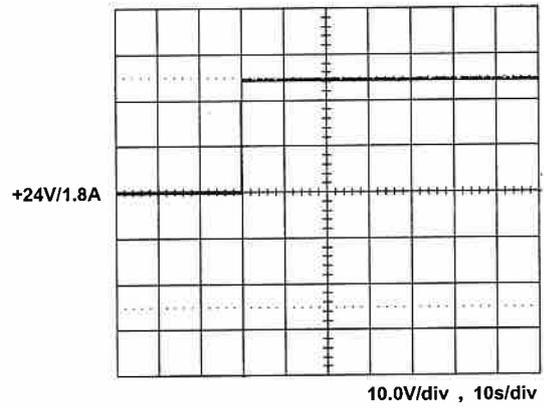


8.7 +24V step response

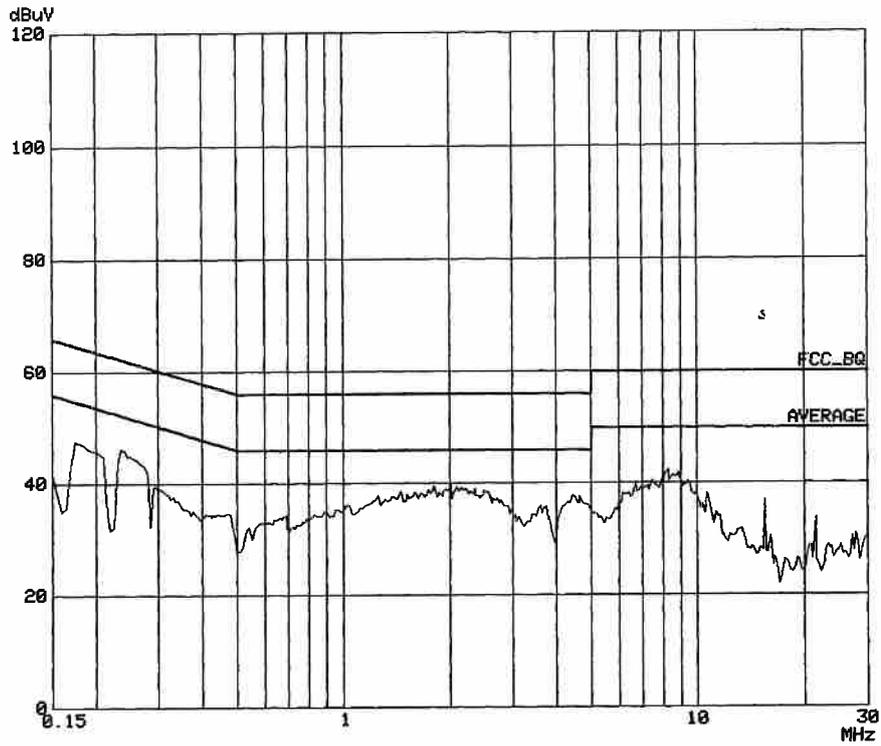


+24V step from 0.26A to 1.3A

8.8 Peak Load



8.9 FCC B performance



8.10 EN 55022 B

