

**SPECIFICATION**

and

**PERFORMANCE**

for

SWITCHING POWER SUPPLY

**M/N : SNP-C087**

|                                |                 |               |               |                |  |  |
|--------------------------------|-----------------|---------------|---------------|----------------|--|--|
| Reviewed by<br>Project Manager | 张景新<br>02-13-66 | 高明峰<br>071811 | 王斌<br>3/21/14 | 王斌<br>11/19/20 |  |  |
| Typed by<br>Document Assistant | 张素茹<br>021306   | 高明峰<br>071811 | 王斌<br>032114  | 王斌<br>111920   |  |  |
| SKYNET ELECTRONIC              |                 |               | LAST REV. NO. |                |  |  |

## 1.0 INTRODUCTIONS

It is a 12V signal output with metal enclosure power supply, and build a terminal blocks for Input & output.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is from 85VAC to 264VAC, nominal line is 115VAC/230VAC. (Label 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 2A at 115VAC or 1A 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.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

| Output | Min. load | Rated load | Peak load | voltage accuracy |
|--------|-----------|------------|-----------|------------------|
| +12V   | 0A        | 7A         | 10.5A     | 11.9V to 12.1V   |

At factory, the +12V output is set between +11.95V to +12.05V at 60% rated load and nominal line input. The peak power can be supplied up to 8 sec. at nominal line. The output voltage can be adjusted up to +10% at nominal line.

### 3.2 Ripple and noise

The peak to peak ripple and noise is less than 1% at rated load, nominal line. Measuring is done by 15MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF & 10uF parallel capacitor.

### 3.3 Line regulation

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

### 3.4 Load regulation

The load regulation is less than  $\pm 1\%$ , which are measured by changing the output load + -40% from 60% rated load, and the other outputs are kept at 60% rated load and nominal line input.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is 85% 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

#### 4.3.1 Over voltage protection

The built-in crowbar circuit will shut down the outputs to avoid damaging the external circuits. The trip point of over voltage protection is around +13.1V to +15.1V. To recover from over voltage protection, cycle the AC line OFF and ON is necessary.

#### 4.3.2 Short circuit and over load protection

The power supply will generate a hiccup mode to protect itself against short circuit or over load conditions, and will automatically return to normal after fault conditions are removed.

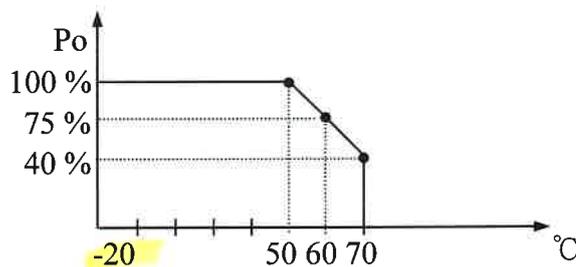
### 4.4 Remote sense

The +12V output has remote sense capability.

## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

-20°C to 70°C (50°C to 70°C can operate decreasingly 2.5% / °C from 50°C)



### 5.2 Storage temperature

-40°C to +75°C

### 5.3 Operating humidity

10% to 90% Non-Condensing.

### 5.4 Altitude

Will operate properly at any altitude between 0 to 6000ft.

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following regulations :

UL 60950-1

CSA 22.2 NO.234

EN 60950-1

### 6.2 EMI standards

Designed to meet the following limits :

FCC docket 20780 curve "B"

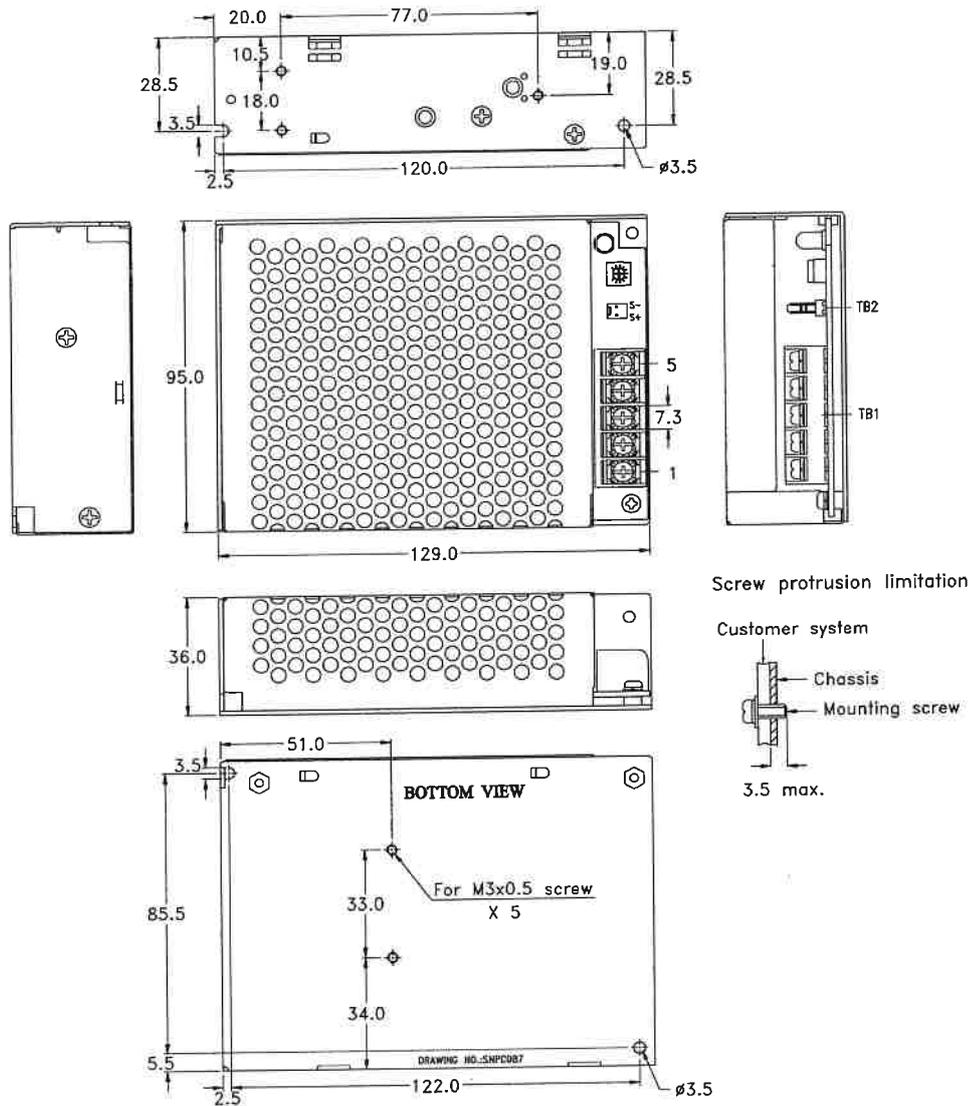
EN55022 class "B"

### 6.3 EMS standards

Designed to meet the following limits :

|              |  |             |
|--------------|--|-------------|
| EN61000-4-2  | 4KV contact, 8KV air discharge         | Criterion A |
| EN61000-4-3  | 10V/M with 80% AM                      | Criterion A |
| EN61000-4-4  | 4KV                                    | Criterion A |
| EN61000-4-5  | Line to Line 1KV ; Line to ground 2KV. | Criterion A |
| EN61000-4-6  | 10V with 80% AM                        | Criterion A |
| EN61000-4-8  | 3A/M                                   | Criterion A |
| EN61000-4-11 | 30 % dips 10 ms, Criterion A           |             |
|              | 60 % dips 100 ms, Criterion C          |             |
|              | 95 % dips 5000 ms, Criterion C         |             |

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions shown in mm as above.

Tolerance specified is + -0.4mm between mounting holes, + -0.8mm other dimensions.

7.2 Connectors

TB1--AC Input & DC Output: Terminal Blocks, pitch of 8.25 mm

TB2--Remote sense : Molex 5045-02A or equivalent

7.3 Terminal Blocks assignment

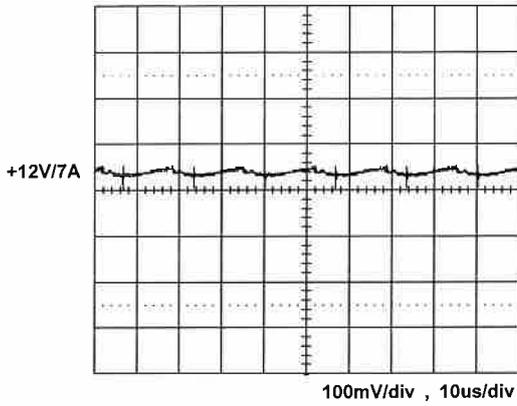
- |             |        |    |      |
|-------------|--------|----|------|
| Position 1. | AC / L | 4. | GND  |
| 2.          | AC / N | 5. | +12V |
| 3.          | Earth  |    |      |

7.4 Packing

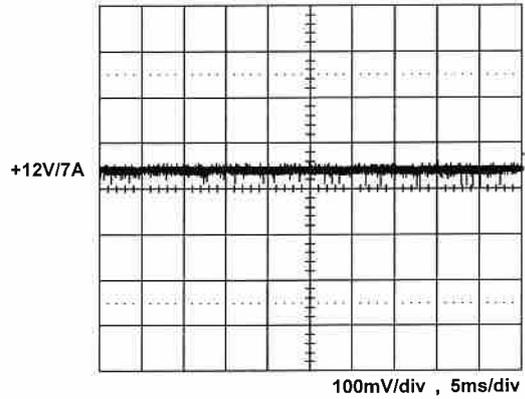
- Net weight : 440 g approx. / unit
- Carton size (mm) : 403 (L) x 373 (W) x 278 (H)
- Quantity : 30 units / carton
- Gross weight : 16.3 kg approx. / carton

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

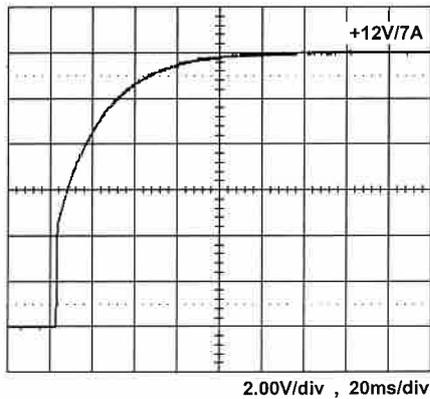
8.1 Switching frequency ripple



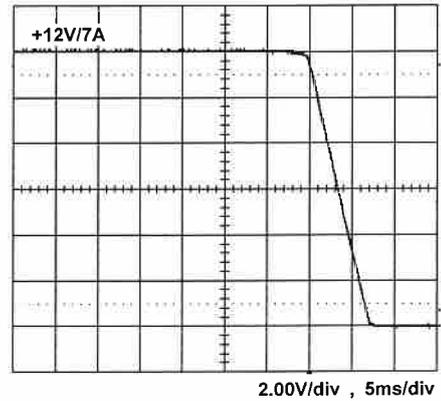
8.2 Line frequency ripple



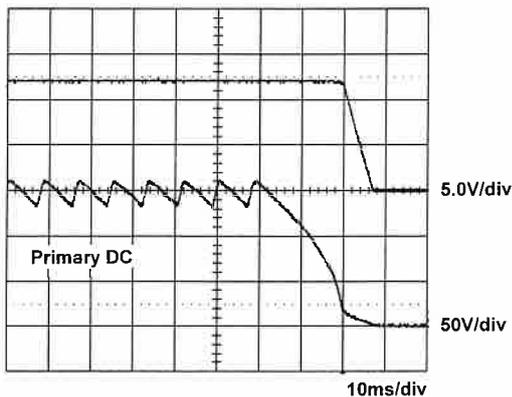
8.3 Output turn on wave form



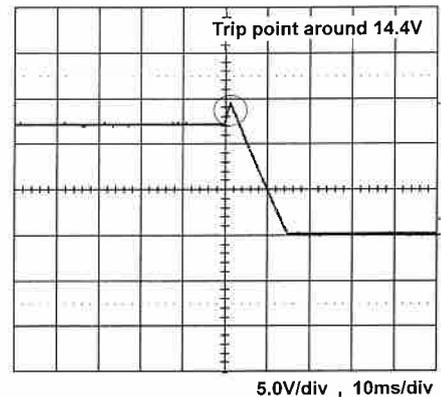
8.4 Output turn off wave form



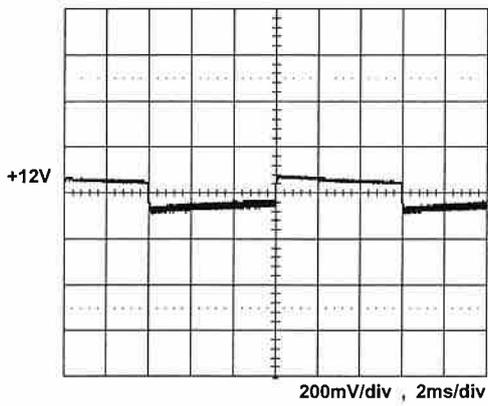
8.5 Hold-up time



8.6 Over voltage protection

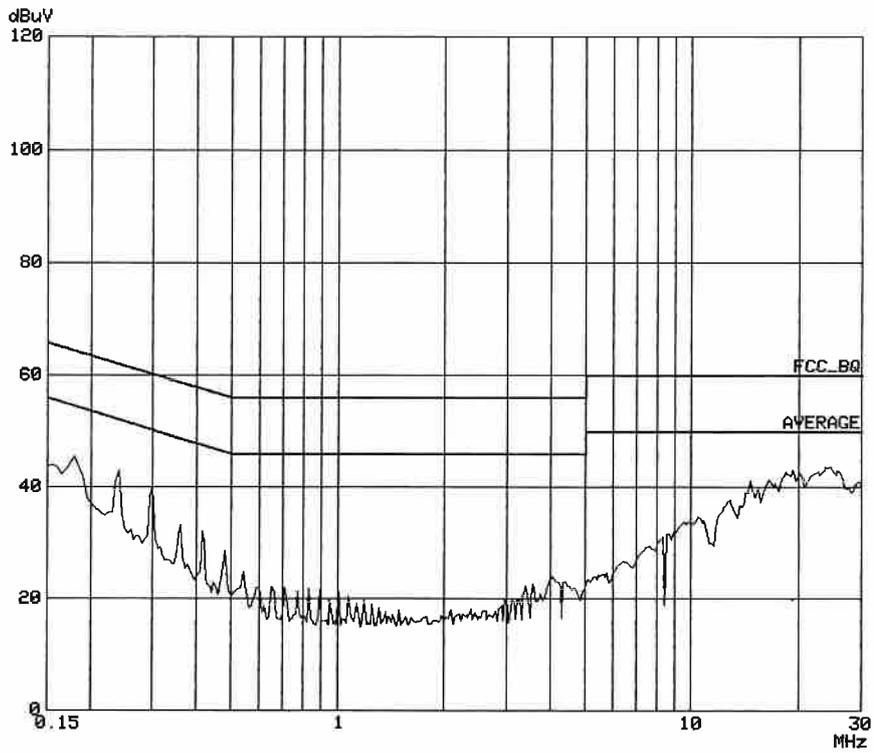


8.7 +12V step response



+12V step from 1.4A to 7A

### 8.8 FCC B performance



### 8.9 EN55022 class "B"

