

**SPECIFICATION**

for

SWITCHING POWER SUPPLY

**M/N : SNP-A105**

Reviewed by Project Manager						
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SKYNET ELECTRONIC			LAST REV. NO.			

## 1.0 INTRODUCTIONS

SNP-A105 is a Class I input and 90W rated / 108W peak output switching mode desktop adaptor with active PFC. Low no-load input power ( $< 0.5W$ ) and high average efficiency in active mode ( $\geq 87\%$ ) complies with the EPA energy star stage V requirements. Also, the safety conformity covers IT and Medical applications.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is 90VAC ~ 264VAC, nominal line is 115V/230V.

This is class I power supply.

### 2.2 Input Frequency

The range of input frequency is 47Hz ~ 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 40A at 115VAC input or 80A at 230VAC input, with cold start, 25°C.

### 2.5 No-load input power

No-load input power is less than 0.5W at input voltage range.

### 2.6 Power Factor

PF  $> 0.9$  at 115Vac and rated load.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

output	min. load	rated load	peak load	voltage accuracy
+18V	0A	5A	6A	+17.1V to +18.9V

At factory, +18V output is set between +17.1V to +18.9V at 60% rated load and nominal line input.

\* Peak load is not promised to use over 10 sec. at nominal line, otherwise the life-time Will be reduced.

### 3.2 Ripple and noise

The peak to peak ripple and noise for each output is less than 100mV at rated load, nominal line. Measuring is done by 20 MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF +10uF capacitor.

### 3.3 Line regulation

The line regulation is less than + -0.5% while measuring at rated load and + -10% of nominal line input voltage changing.

### 3.4 Load regulation

The load regulation is less than + -3% which is measured by changing the output load + -40% from 60% rated load at nominal line input.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is 87% typ. while measuring at nominal line and rated load.

Also, the average efficiency in active mode is higher than 87%. while measuring at nominal line. (100%、75%、50% and 25% of rated load)

### 4.2 Hold up time

The hold up time is higher than 22mS 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 build-in crowbar circuit will shut down the outputs to avoid damaging the external circuits. The trip point of over voltage protection is around +23.5V to +26.6V. 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.

## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

-20°C to 60°C, 0°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

-40°C to 80°C

### 5.3 Operating humidity

10% to 95% Non-Condensing

### 5.3 Altitude

Will operate properly at any altitude between 0 to 3000m.

## 6.0 INTERNATIONAL STANDARDS

(Label 100 ~ 240VAC)

### 6.1 Safety standards

Designed to meet the following standards :

UL 60950-1 : 2007 (cULus)

EN 60950-1 : 2006 +A11 (TUV)

ANSI/AAMI ES60601-1 : 2005 (cULus)

EN 60601-1 : 2006 (TUV)

### 6.2 EMI standards

Designed to meet the following limits :

FCC docket 20780 curve "B"

EN55011 class "B"

EN61000-3-2 class D

EN61000-3-3

### 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	2KV	Criterion A
EN61000-4-5	Line to Line 1KV	Criterion A
	Line to Ground 2KV	Criterion A
EN61000-4-6	3V with 80% AM	Criterion A
EN61000-4-8	3A/M	Criterion A
EN61000-4-11	30% dips 10ms	Criterion A
	60% dips 100ms	Criterion C
	100% dips 5000ms	Criterion C

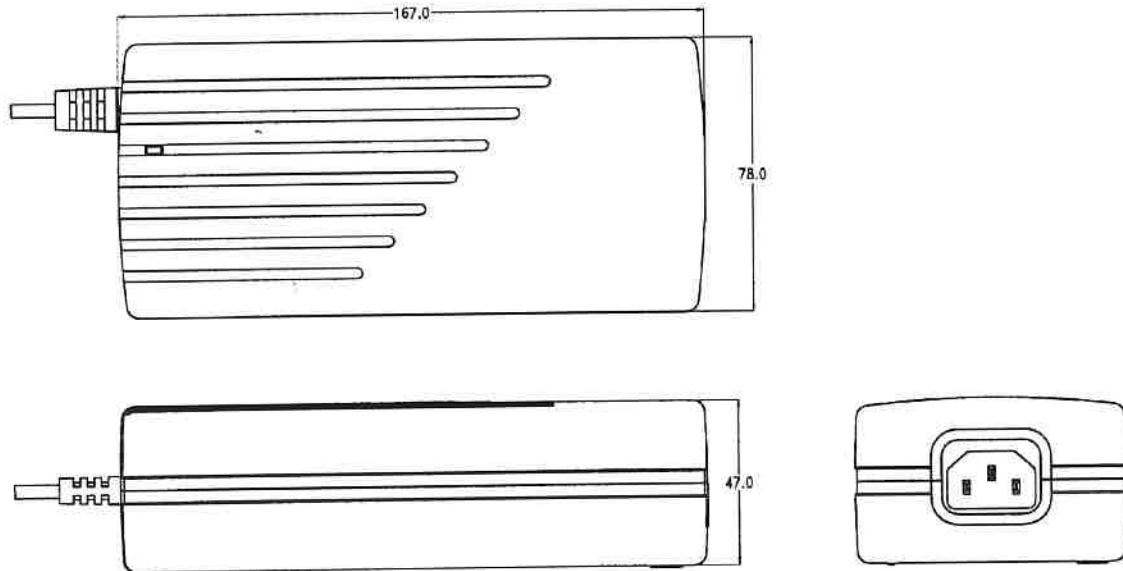
### 6.4 Energy saving standards

Designed to meet the following standard :

Energy Star Ver. 2.0 Level V

CEC Level V

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions shown in mm as above.

Tolerance specified is + -1mm (Excluding DC wire harness)

7.2 Connectors

AC inlet : Meet IEC320 C14 standard.

DC output : Compare to HOSIDEN TCP8941-341177 but without quick lock or equivalent (Cable length : 1.5M approx.)

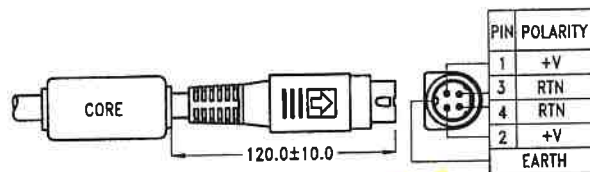
7.3 Power on indicator

Green light on top of Box.

7.4 Case color

Black

7.5 DC output pin assignment : (See drawing below)

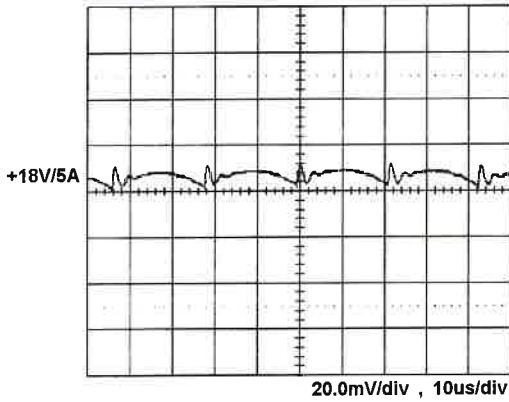


7.6 Packing

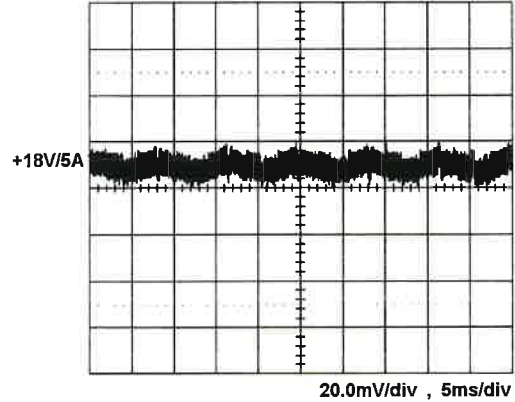
- Net weight : 700 g approx. / unit
- Carton size (mm) : 533 (L) x 326 (W) x 327 (H)
- Quantity : 16 units / carton
- Gross weight : 14.0 kg approx. / carton

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

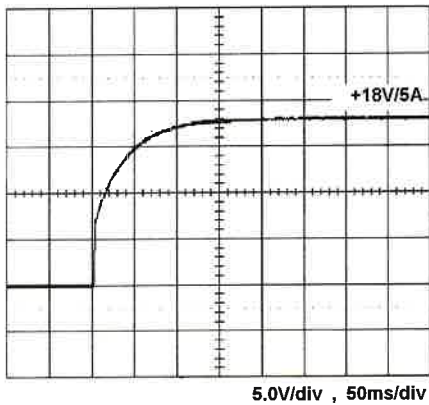
**8.1 Switching frequency ripple**



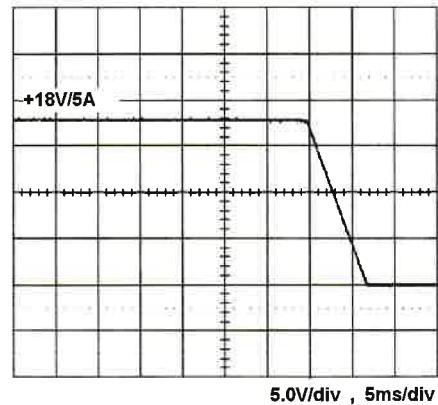
**8.2 Line frequency ripple**



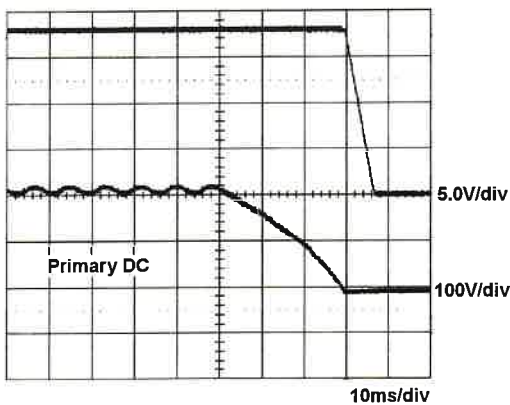
**8.3 Output turn on wave form**



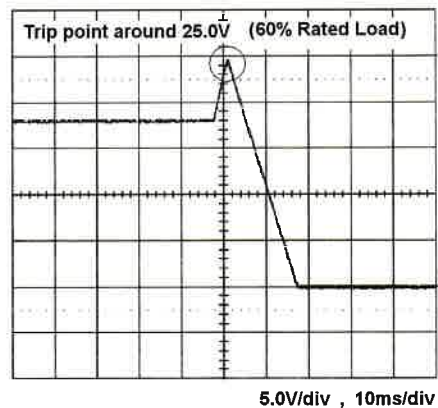
**8.4 Output turn off wave form**



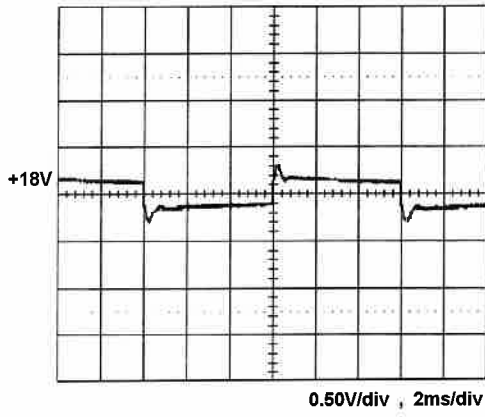
**8.5 Hold-up time**



**8.6 Over voltage protection**

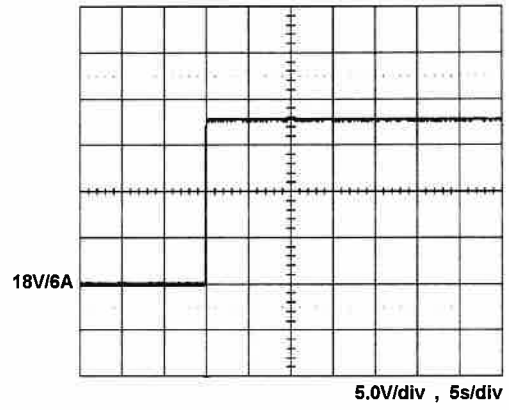


8.7 Step response

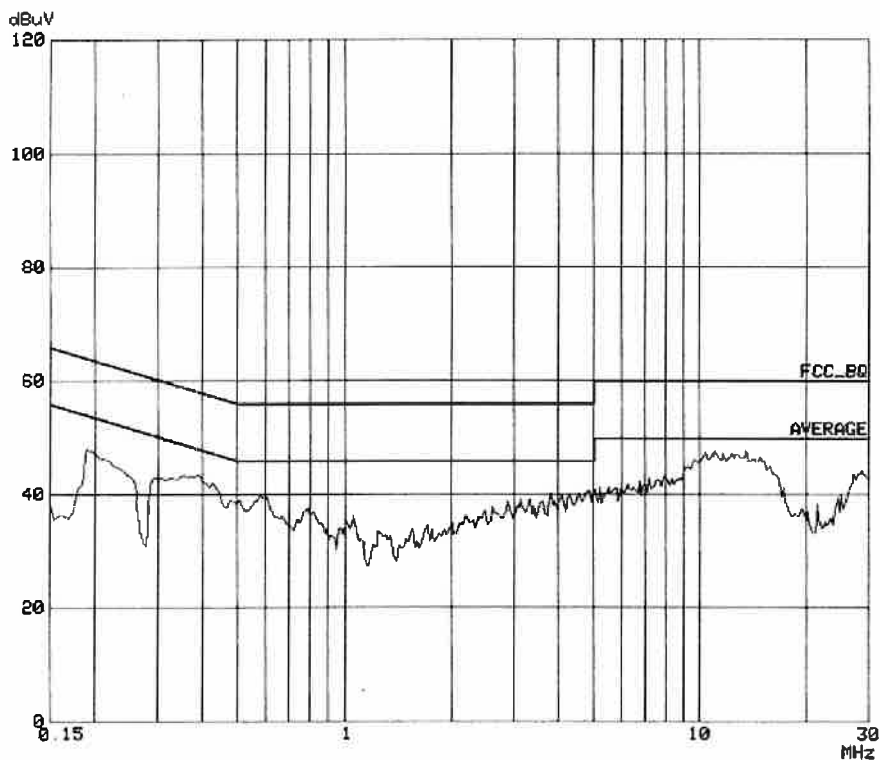


+18V step from 1A to 5A

8.8 Peak Load



### 8.9 FCC B performance



### 8.10 EN 55011 class B

