

**SPECIFICATION**

**For**

**SWITCHING POWER SUPPLY**

**M/N : SNP-E309-MA**

**STANDARD PRODUCT**

Reviewed by Product Manager	J.T 2-6-17	J.S 1-23-24				
Typed by Document Assistant	蕭瑞英 011917	蕭瑞英 011624				
<b>SKYNET ELECTRONIC</b>			<b>LAST REV. NO.</b>			

## 1.0 INTRODUCTIONS

SNP-E309-MA is a 300W SMPS with metal enclosure and built-in forced air cooling, it is without audible noise standard version.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

Input voltage range : 90Vac to 264Vac

Nominal line voltage : 115Vac/230Vac

### 2.2 Input frequency

47Hz to 63Hz

### 2.3 Input current

$4A_{rms}$  max/115Vac,  $2A_{rms}$  max/230Vac

### 2.4 Inrush current

30A max/115Vac, 60A max/230Vac (EMI capacitors excluded, cold start at 25°C)

### 2.5 Test Condition

All specs except international standards or specs with special notes are defined and tested at nominal line input, rated load and 25°C.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

$V_o$	min. load	rated load
+24V	0A	12.5A

#### 3.1.1 Factory adjustment

+23.9V to +24.1V (60% rated load, 115Vac)

#### 3.1.2 Min load for FAN

20W min load for main output is required for FAN to start working.

### 3.2 Ripple and noise

< 200mV (20MHz bandwidth limited, 1X probe with 0.47uF parallel capacitor)

### 3.3 Line regulation

<  $\pm 0.5\%$  (90Vac to 264Vac, comparing with 115Vac)

### 3.4 Load regulation

<  $\pm 1\%$  (20% to 100% rated load, comparing with 60% rated load)

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

Rated load efficiency : 88% typical

Average efficiency of 25%, 50%, 75% and 100% rated load : >87%

### 4.2 Hold up time

15ms typical

### 4.3 Protection

#### 4.3.1 Over-voltage protection

Trip point : +25V to +29V (60% rated load)

Protection mode : Latch-off

#### 4.3.2 Short circuit and over-load protection

Protection mode : Auto-recovery

## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

-20°C to 65°C

### 5.2 Storage temperature

-40°C to 85°C

### 5.3 Operating humidity

5% to 95% RH, non-condensing

### 5.4 Altitude

0 to 3000m

### 5.5 MTBF

> 120Khrs (based on MIL-HDBK-217F, rated load, 65 °C)

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety Approvals

Label Voltage : 100Vac to 240Vac

UL 60601-1

CSA 22.2 NO.60601-1

EN 60601-1

### 6.2 Emissions and Harmonic currents

FCC docket 20780 level B

CISPR 22 level B

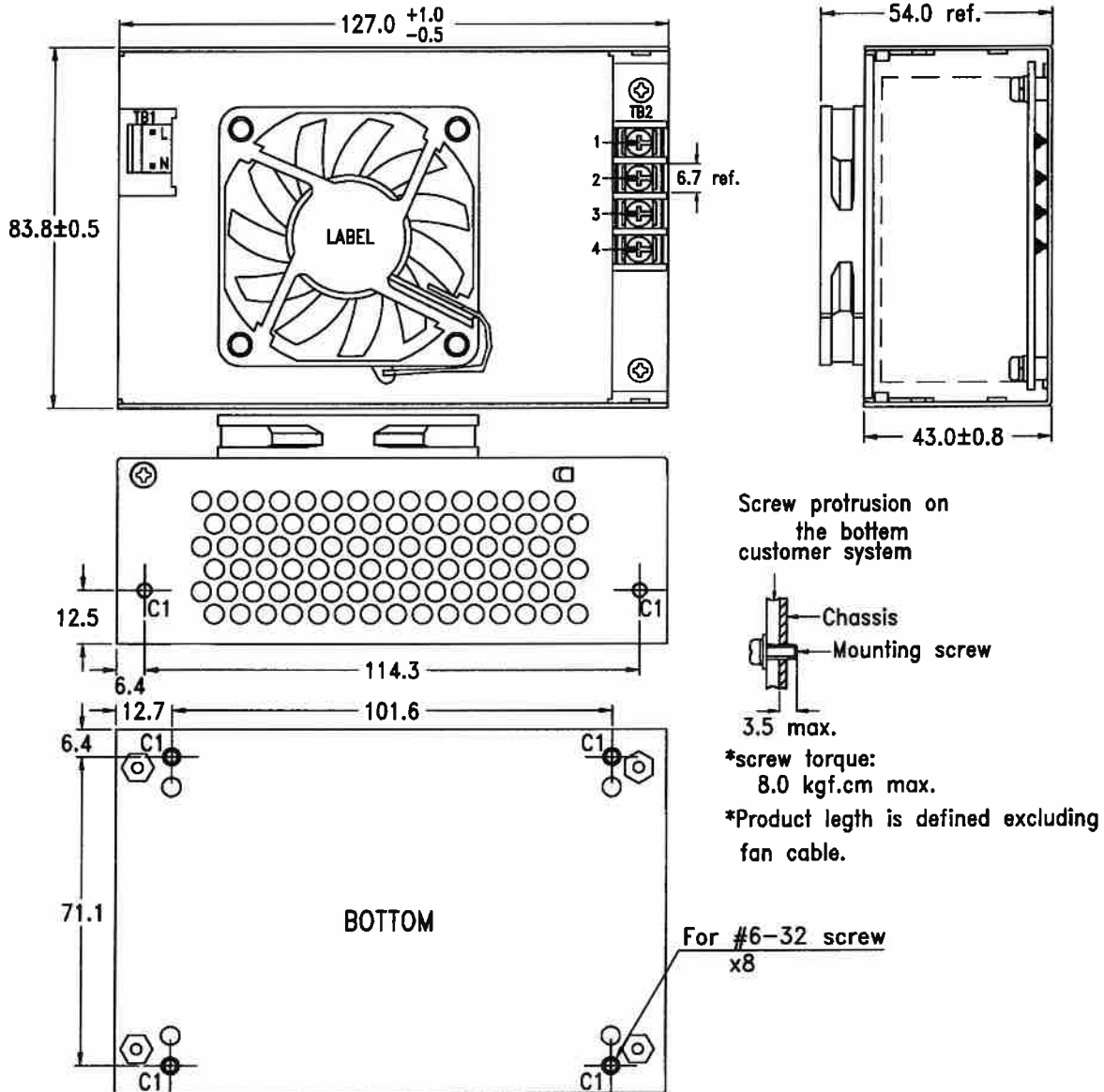
EN 61000-3-2 Class D

EN 61000-3-3

### 6.3 Immunity

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	1kV/Line-Line, 2kV/Line-Earth	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

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions shown in mm as above. Tolerance is specified±0.4mm dimension.

7.2 Connectors

- TB1- - AC Input : Molex 5277-02A or equivalent , mating with Molex 5239-03 or equivalent
- TB2- - DC Output : Terminal blocks, pitch - 8.25mm

7.3 DC pin assignment

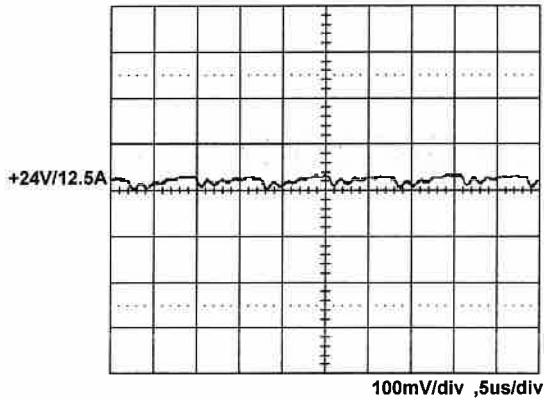
Position 1 +V    2 +V    3 GND    4 GND

7.4 Packing

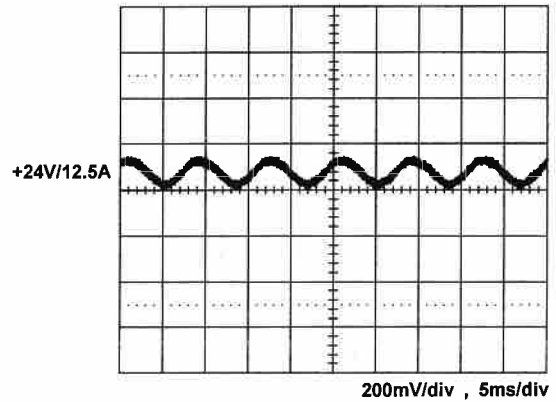
- Net weight : 580 g approx. /unit
- Carton size(mm) : 384 (L) x 339 (W) x 327 (H)
- Quantity : 24 units / carton
- Gross weight : 16.0kg approx. / carton

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

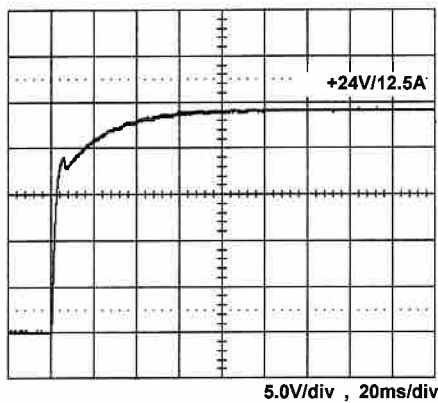
**8.1 Switching frequency ripple**



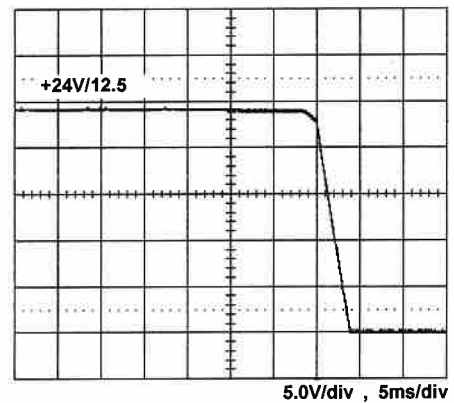
**8.2 Line frequency ripple**



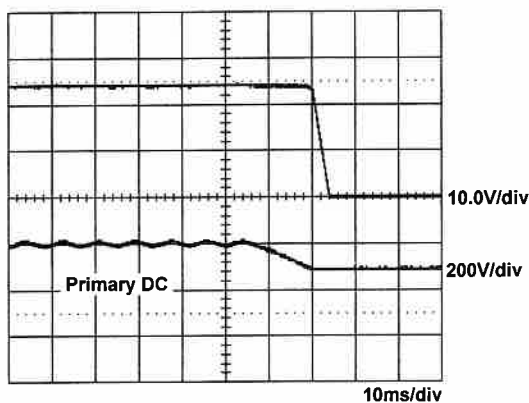
**8.3 Output turn on wave form**



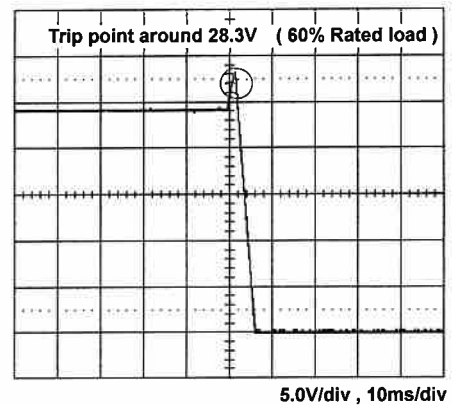
**8.4 Output turn off wave form**



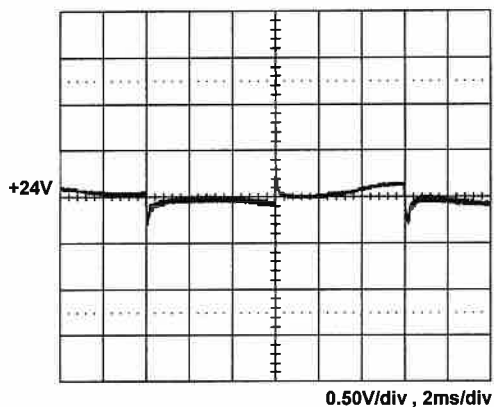
**8.5 Hold-up time**



**8.6 Over voltage protection**

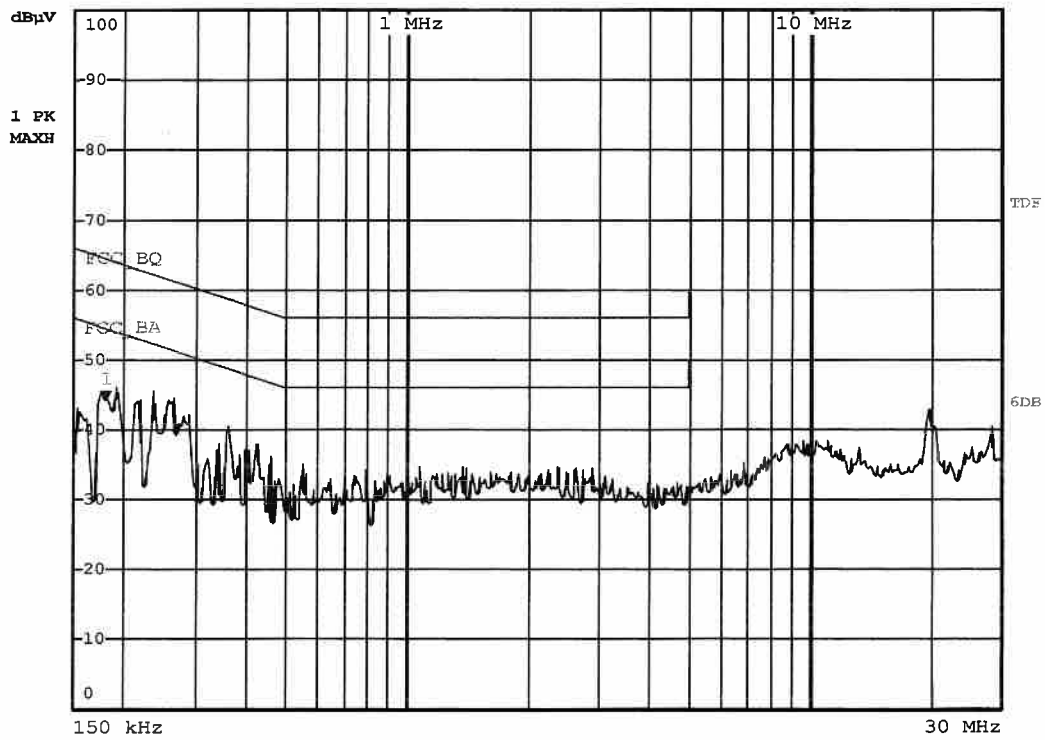


8.7 +24V step response



+24V step from 2.5A to 12.5A

8.8 FCC "B" QP performance



8.9 CISPR "B" QP performance

