

**SNP-G12G-MA SPECIFICATION**

**SPECIFICATION**

**For**

**SWITCHING POWER SUPPLY**

**M/N : SNP-G12G-MA**

**STANDARD PRODUCT**

Reviewed by Product Engineer	Hui 04213	Hui 072415	J. 12-24-18			
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<b>SKYNET ELECTRONIC</b>			<b>LAST REV. NO.</b>			

## 1.0 INTRODUCTIONS

SNP-G12G-MA is an open frame, general purpose and rated 120W SMPS. It also features in Medical safety and nonaudible noise green power.

## 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

$2A_{rms}$  max/115Vac,  $1A_{rms}$  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

Vo	min. load	rated load	max. load	peak load
+28V	0A	4.3A	5.4A	7.2A

#### 3.1.1 Factory adjustment

+27.9V to +28.1V (60% rated load, 115Vac)

#### 3.1.2 Peak load max duration

2sec. (duty cycle < 10%, average power < 100W)

### 3.2 Ripple and noise

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

### 3.3 Line regulation

< ±0.5% (90Vac to 264Vac, compare with 115Vac)

### 3.4 Load regulation

< ±1% (20% to 100% rated load, compare with 60% rated load)

### 3.5 Capacitive load start-up capability

< 4000uF (90Vac, rated load)

## 4.0 GENERAL FEATURES

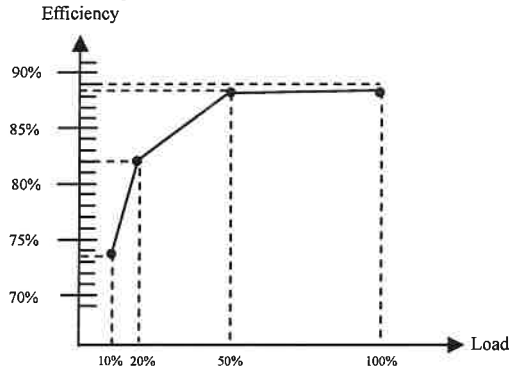
### 4.1 Average efficiency

>87 typ. (Average from 20%, 50%, and 100% efficiency)

**4.2 step efficiency**

- >73.5% at 10% rated load
- >82% at 20% rated load
- >88.5% at 50% rated load
- >89% at 100% rated load

**4.3 Efficiency Curve**



**4.4 Hold up time**

>20 ms

**4.5 No load input power**

<4.5W (without FAN connection)

**4.6 Protection**

**4.6.1 Over-voltage protection**

Trip point : +29V to +34V (60% rated load)

Protection mode : Latch-off

**4.6.2 Short circuit and over-load protection**

Protection mode : Auto-recovery

**5.0 ENVIRONMENT SPECIFICATIONS**

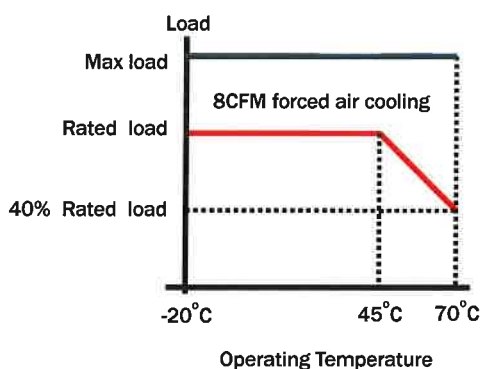
**5.1 Operating temperature**

-20°C to 70°C

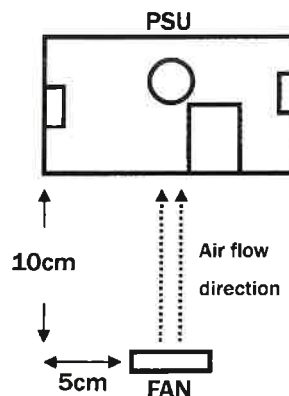
Output reduces linearly to 40% load from 45°C to 70°C.

Rated load with convection cooling; max load with 8 CFM forced air cooling.

Output derating graph



Max Load Fan location



**5.2 Storage temperature**

-40°C to 85°C

**5.3 Operating humidity**

5% to 95% RH, non-condensing

**5.4 Altitude**

0 to 5000m

**5.5 MTBF**

> 160Khrs (based on MIL-HDBK-217F, rated load, 45 °C)

**6.0 INTERNATIONAL STANDARDS**

**6.1 Safety standards**

Label voltage : 100Vac to 240Vac

UL 60601-1

CSA 22.2 NO.60601-1

EN 60601-1

**6.2 EMI standards**

FCC docket 20780 curve "B"

CISPR 22 "B"

EN 61000-3-2 class "D"

EN 61000-3-3

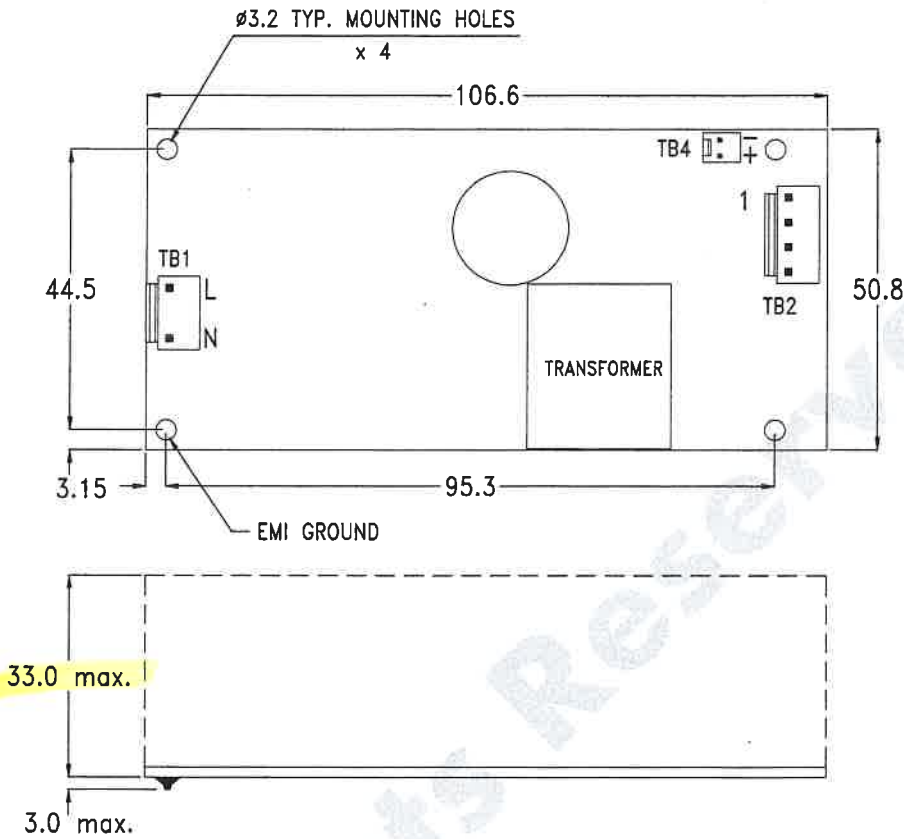
**6.3 EMS standards**

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	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 below. Tolerance specified is +/-0.4mm.



**7.2 Connectors**

- TB1--AC Input : using JST B2P3-VH or equivalent  
(Mates with : JST VHR-3N or equivalent)
- TB2--DC Output : using JST B4P-VH or equivalent  
(Mates with : JST VHR-4N or equivalent)
- TB4--For +12V fan use only : using Molex 5045-02A or equivalent  
(Mates with : Molex 5051-02 or equivalent)

**7.3 DC Output pin assignment**

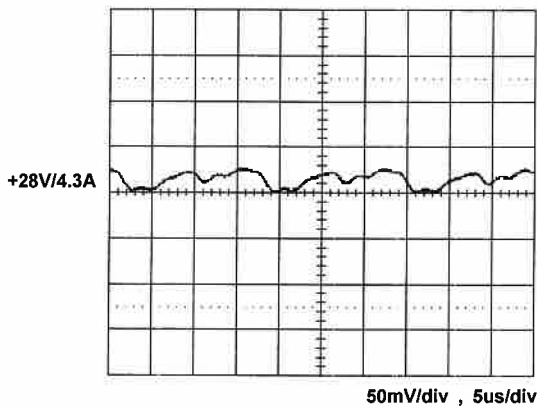
- Position 1 : GND
- 2 : GND
- 3 : + 28V
- 4 : + 28V

**7.4 Packing**

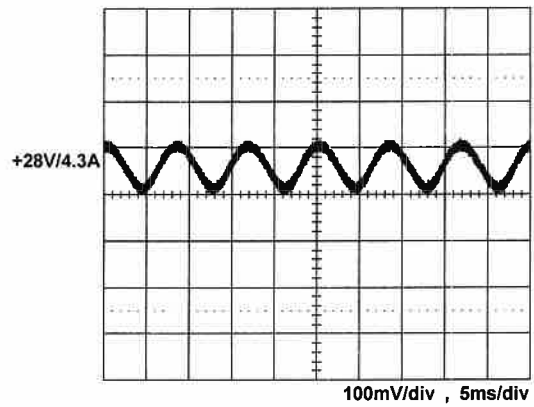
- Net weight : 160g approx. / unit
- Carton size(mm) : 446 (L) x 412 (W) x 287(H)
- Quantity : 80 units / carton
- Gross weight : 16.0 kg approx. / carton

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

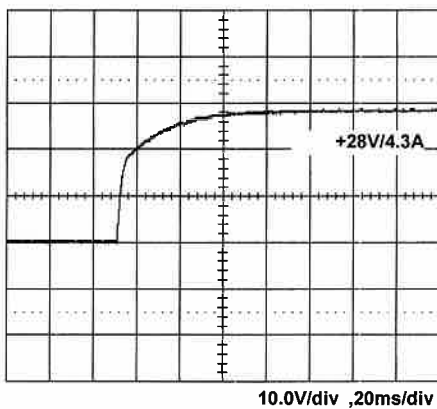
8.1 Switching frequency ripple



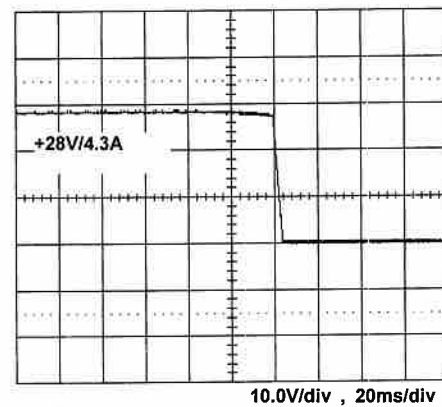
8.2 Line frequency ripple



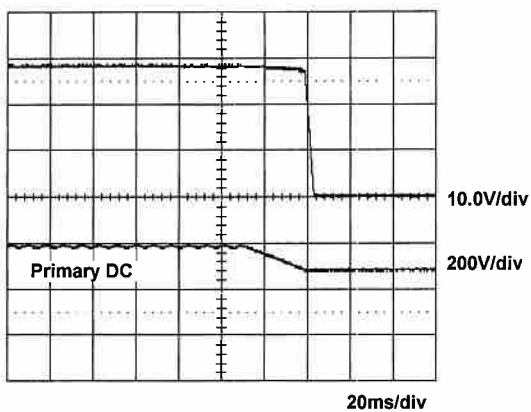
8.3 Output turn on wave form



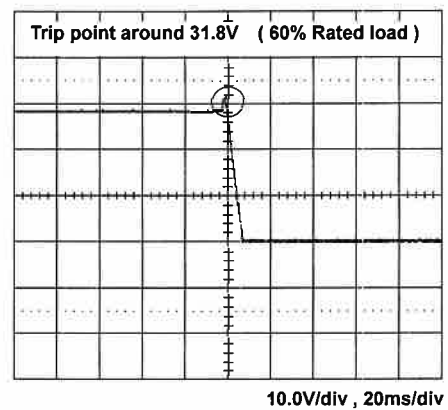
8.4 Output turn off wave form



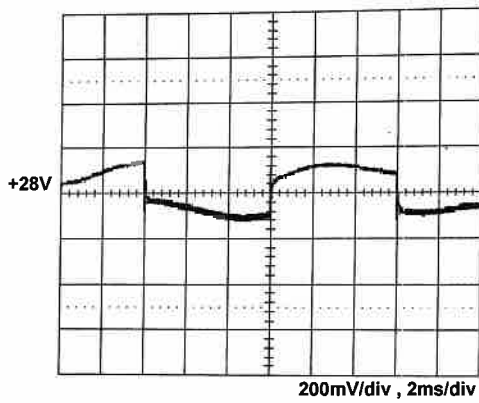
8.5 Hold-up time



8.6 Over voltage protection

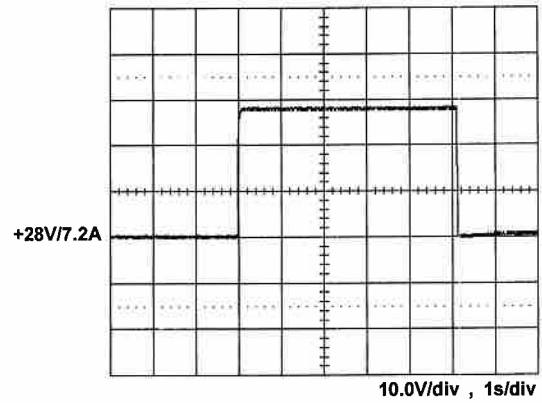


8.7 +28V step response



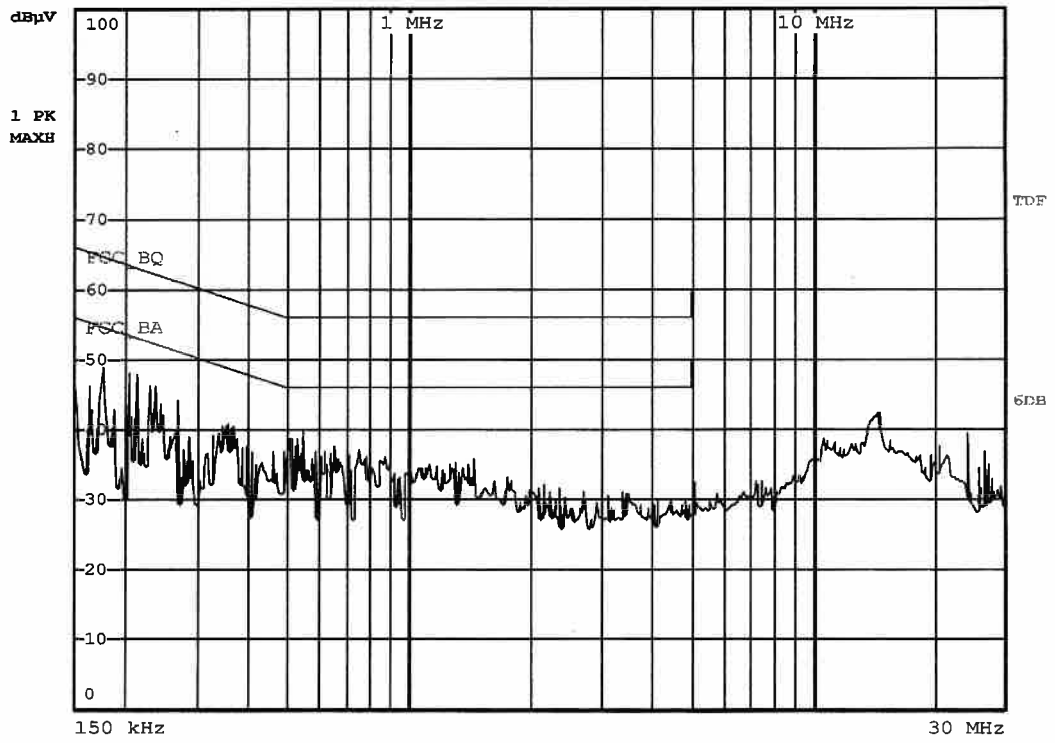
+28V step from 0.86A to 4.3A

8.8 peak load



+28V/7.2A

8.9 FCC "B" QP performance



8.10 CISPR 22 "B" QP performance

