

**SNP-P209-S SPECIFICATION**

**SPECIFICATION**

**For**

**SWITCHING POWER SUPPLY**

- **SNP-P209-S**
- **SNP-P209-SC**

**STANDARD PRODUCT**

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<b>SKYNET ELECTRONIC</b>		<b>LAST REV. NO.</b>				

**1.0 INTRODUCTIONS**

SNP-P209-S and SNP-P209-SC are 200W power supply with built-in:

- (1) Design for BF application.
- (2) Convection cooling for Rated power.
- (3) With +5Vsb & +12V Fan output.
- (4) Remote on/off control and Remote sense function, SNP-P209-SC without Remote sense.
- (5) Fan speed controlled by loading. SNP-P209-SC without Fan control.
- (6) EMI class B.

**2.0 INPUT SPECIFICATIONS**

**2.1 Input voltage**

The range of input voltage is from 90VAC to 264VAC. Nominal line 115VAC/230VAC.

**2.2 Input frequency**

The range of input frequency is from 47Hz to 63Hz.

**2.3 Input current**

The maximum input current is 3A at 115VAC or 1.5A at 230VAC.

**2.4 Inrush current**

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

**2.5 Standby input power**

Input power is less than 0.5W at 0.25W output (remote off ) and 115Vac/230Vac input.

**3.0 OUTPUT SPECIFICATIONS**

**3.1 Load range**

output	min. load	rated load	max. load	peak load	voltage range
+24V	0A	8.3A	12.5A	16.5A	21.6V to 26.4V
+5Vsb	0A	1A			4.25Vto 5.65V

**3.1.1 Factory adjustment**

At factory, the output in 60% rated load and nominal line condition, the +24V output is set to between 23.95V and 24.05V. The +5Vsb output is checked to be within the specified voltage accuracy range.

At peak load and nominal line, the output can last for 5sec without shut down.

**3.1.2 Total output power**

200W with convection cooling, 200W~300W with 10CFM forced air cooling.

**3.2 Ripple and noise**

The peak to peak ripple and noise for each output is less than 1% Vo at rated load and nominal line. Measuring is done by 15MHz band width limited oscilloscope and terminated output with a 0.47uF +47uF capacitor.

**3.3 Line regulation**

The line regulation for each 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 each output is less than + -1% measuring are done by changing the measured output load + -40% from 60% rated load and nominal line

**3.5 Capacitive load capability**

The capacitance load start-up capability of +24V can be up to 10000uF at rated load and nominal load.

**3.6 Surge load capability**

The output current can provide 300% rated current within 1000ms, and output Voltage can keep above 55% output Voltage.

**3.7 Remote sense (SNP-P209-SC without Remote sense )**

The +24V output has remote sense capability, compensation for 0.5V lead drop max.

**4.0 GENERAL FEATURES****4.1 Efficiency**

The efficiency is typical 90% while measuring at nominal line and rated load.

**4.2 Hold up time**

The hold up time is higher 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****4.3.1 Over current protection**

Trip point :110% to 130% Maximum load.

Protection mode : Auto-recovery.

**4.3.2 Short protection**

Protection mode : Auto-recovery

**4.3.3 Over voltage protection**

+24V trip point :+27V to 31V.

+5Vsb trip point :+7V to +9.5V.

Protection mode : Latch-off.

**4.4 Remote on/off control**

The TTL compatible signal (active low) is use to switch on the output. When remote pin is disconnected from secondary common, the output shall turn off

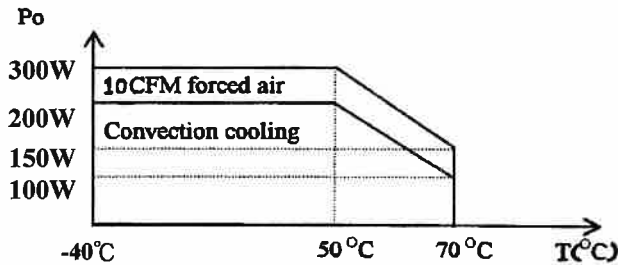
**4.5 Fan speed control (SNP-P209-SC without Fan control)**

The Fan output is only activated white > 50% ±10% of rated load.

**5.0 ENVIRONMENT SPECIFICATIONS**

**5.1 Operating temperature**

-40°C to 70°C, -40°C to 50°C no derating, above 50°C, derate at 2.5% per degree from 50°C to 70°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 5000m

**6.0 INTERNATIONAL STANDARDS**

**6.1 Safety standards** (Label voltage: 100Vac to 240Vac)

UL/CSA/ EN 60950-1, 2<sup>nd</sup> edition

ANSI/AMMI/CSA/EN 60601-1, 3.1<sup>rd</sup> edition

**6.2 EMI standards**

FCC level "B"

EN55022, level "B"

EN55011, level "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            4kV    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

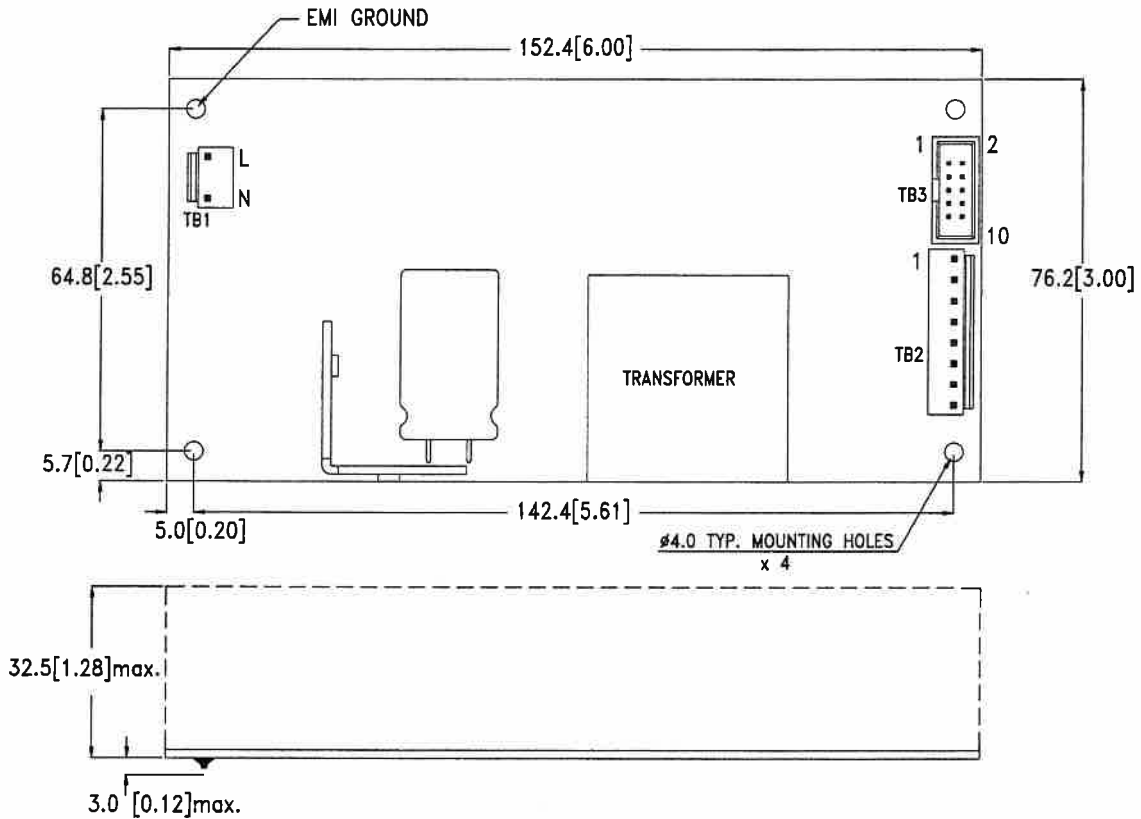
100% dips 20ms,                                    Criterion B

100% dips5000ms,                                   Criterion B

**7.0 Mechanical specification**

**7.1 Dimensions**

Dimensions shown in mm[inch] as below. Tolerance specified is +/-0.4mm[0.02].



**7.2 Connectors**

- TB1--AC input : JST B2P3-VH or equivalent. (Mates with : JST VHR-3N or equivalent)
- TB2--DC output : JST B8P-VH or equivalent. (Mates with : JST VHR-8N or equivalent)
- TB3--Signals : 2x5 (10 pins , pitch=2.54mm) (Mates with : AMP 102387-1 or equivalent)

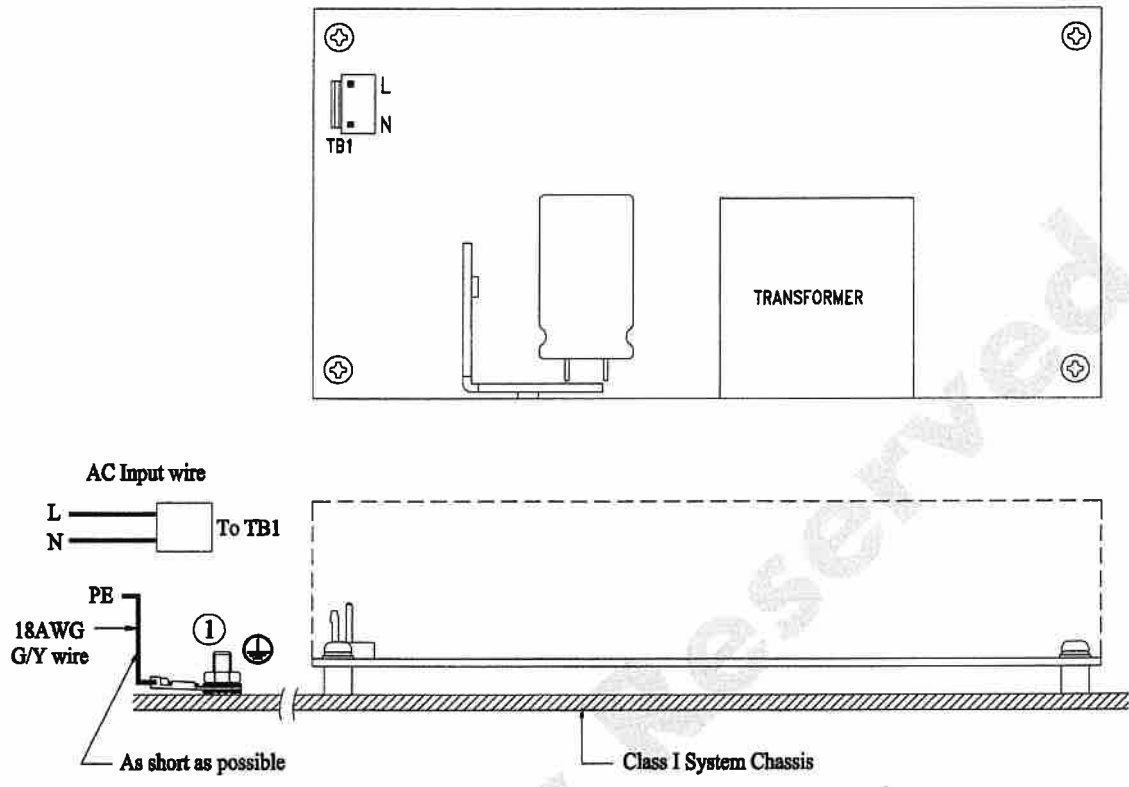
**7.3 DC output pin assignment**

- TB2: Position 1~4 GND
- 5~8 +24V
- TB3: Position 1 +5Vsb
- 2 +5Vsb GND
- 3 FAN+(12V)
- 4 FAN-
- 5 N.C
- 6 N.C
- 7 RM GND
- 8 RM ON/OFF
- 9 RS-
- 10 RS+

**7.4 Packing**

- Net weight : 380g approx. / unit
- Carton size(mm) : 360 (L) x 276 (W) x 379(H)
- Quantity : 24 units / carton
- Gross weight : 12.0 kg approx. / carton

8.0 APPLICATION NOTE

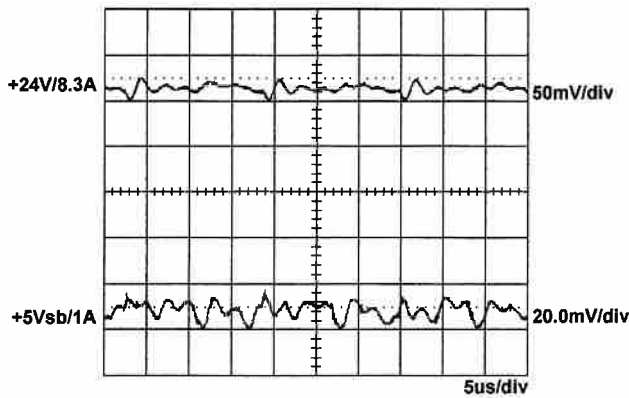


Note :

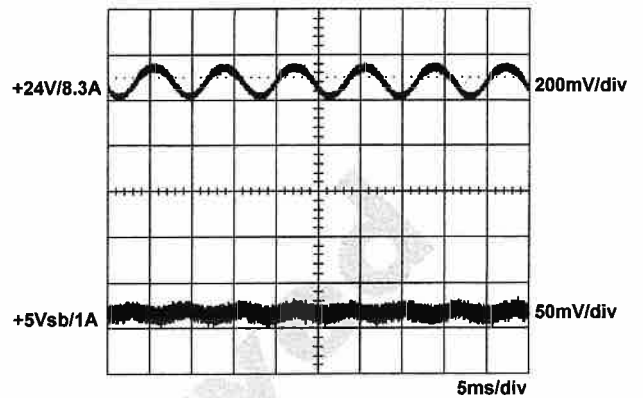
1. Must be fixed properly after the ground wire go into chassis for safety reason.

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

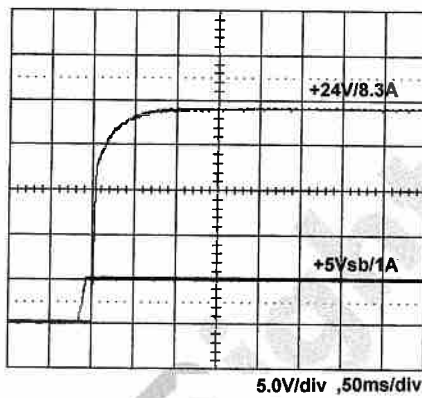
9.1 Switching frequency ripple



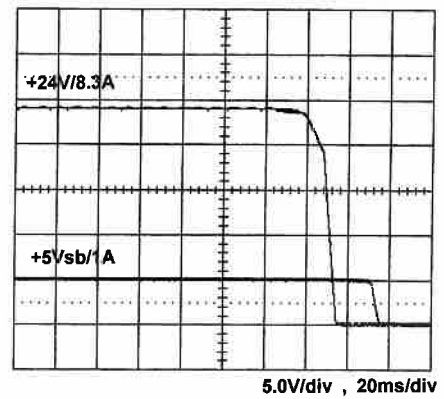
9.2 Line frequency ripple



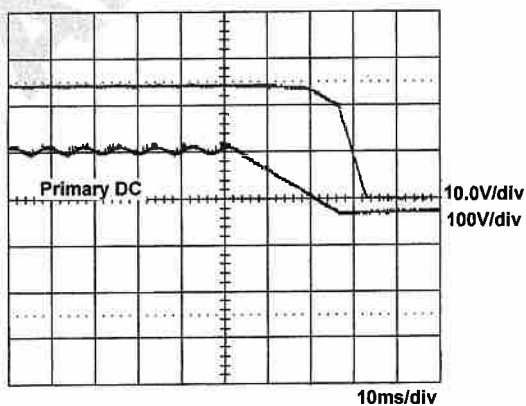
9.3 Output turn on wave form



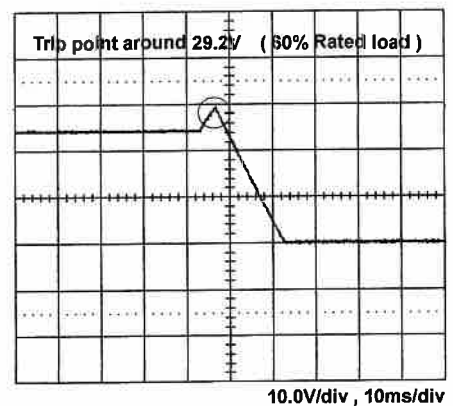
9.4 Output turn off wave form



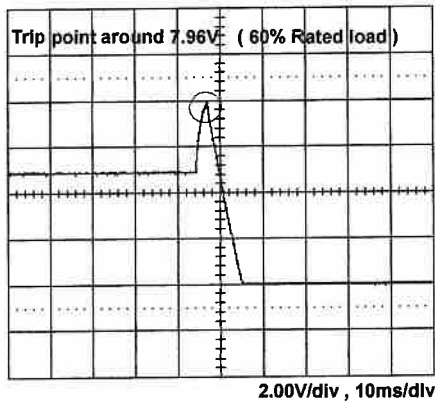
9.5 Hold-up time



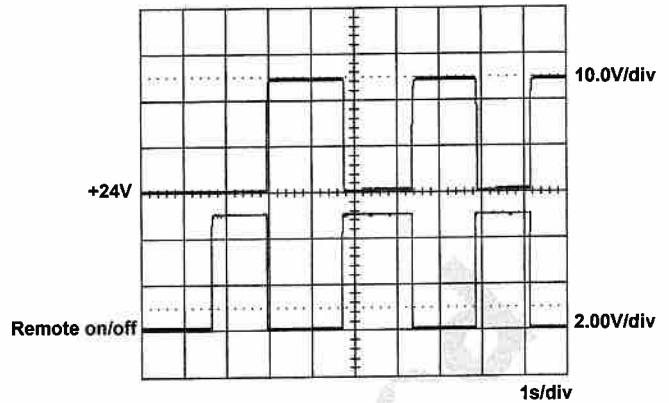
9.6 +24V Over voltage protection



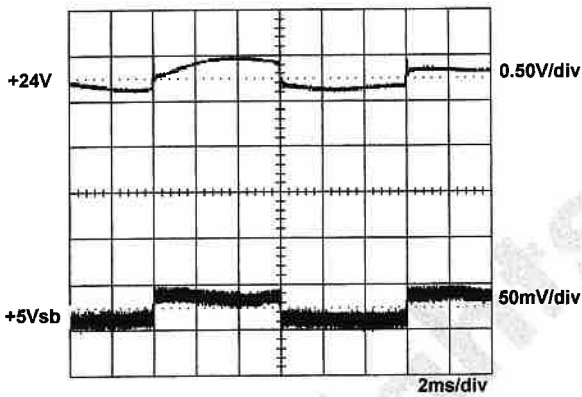
9.7 +5Vsb Over voltage protection



9.8 Remote on/off

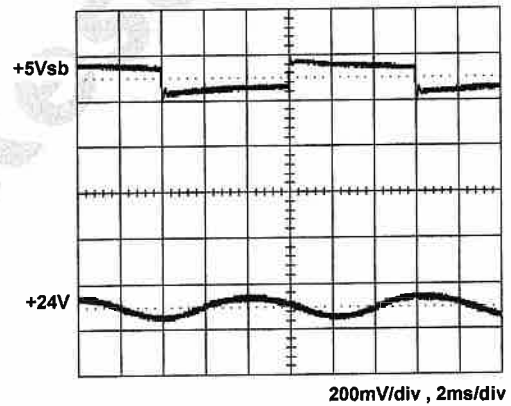


9.9 +24V step response



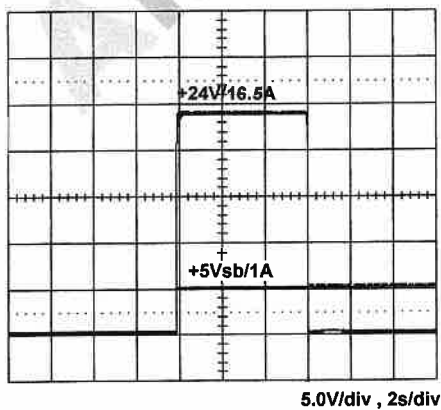
+24V step from 1.66A to 8.3A  
other output at 60% load

9.10 +5Vsb step response

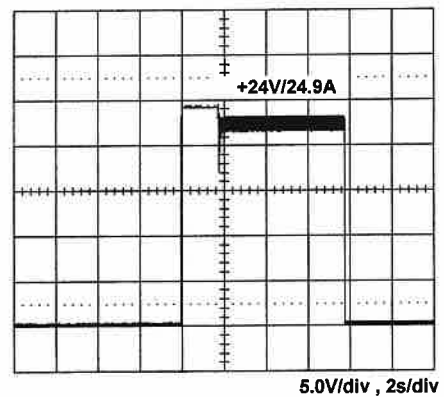


+5Vsb step from 0.2A to 1A  
other output at 60% load

9.11 peak load

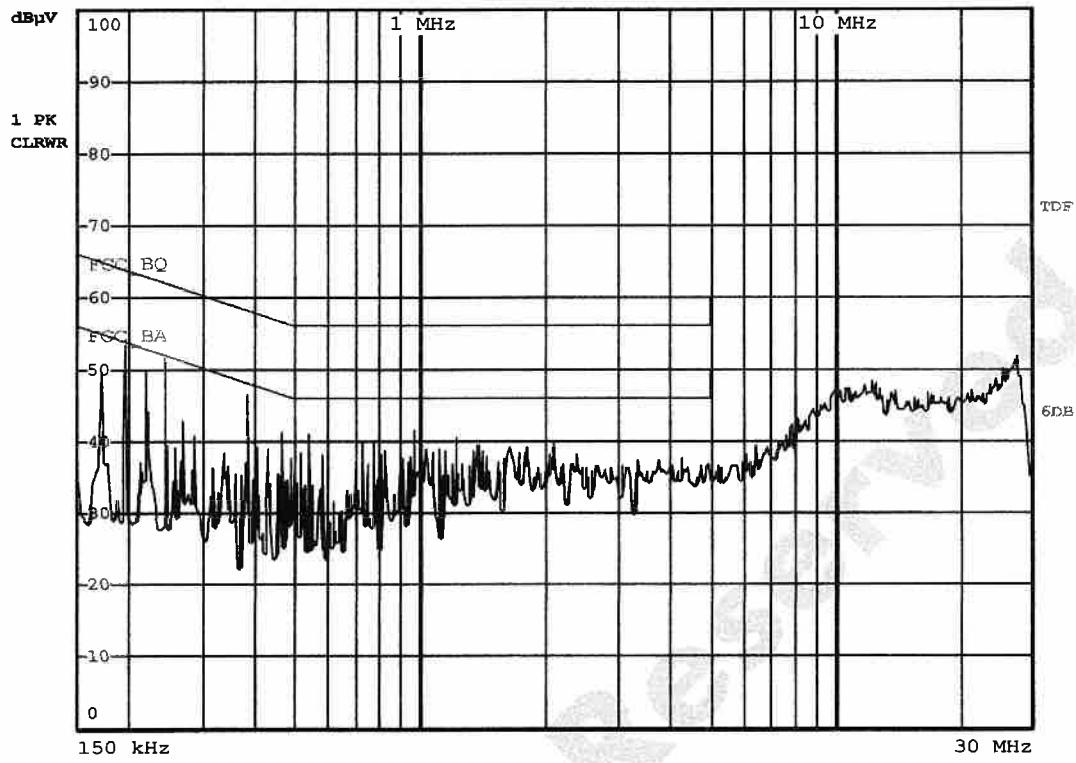


9.12 Surge load capability





9.13 FCC "B" QP performance



9.14 EN55032 "B"

