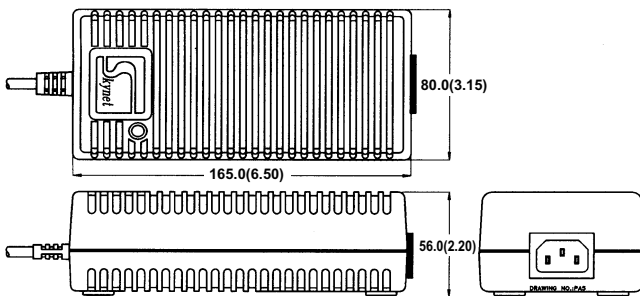




### General Specifications:

Input voltage.....	90VAC to 260VAC
Input frequency.....	47Hz to 63Hz
Inrush current.....	less than 30A at 115VAC
(Cold start)	less than 60A at 230VAC
Efficiency .....	higher than 70%
	at nominal line and rated load
Hold up time.....	longer than 16ms
	at rated load and 115VAC
Short circuit protection .....	auto recovery

### Mechanical Specifications:



### Description:

SNP-PA5X series is an universal input, with various options of outputs in plastic box, and a 50 watts switching mode power supply. It is designed to meet UL, CSA, VDE safety approval and VDE 0871 "B" conducted, FCC part 15 class "B" conducted, radiation EMI limits. It is made for external desk top applications.

### Model available:

- SNP-PA51 for 5V/3A, 12V/2.5A, -12V/0.3A
- SNP-PA53 for 5V/3.5A, 12V/2.5A
- SNP-PA54 for 5V/3A, 15V/1.5A, -15V/0.3A
- SNP-PA5C for 9V/5A
- SNP-PA55 for 18V/3A
- SNP-PA57 for 12V/4.2A
- SNP-PA58 for 15V/3.5A
- SNP-PA58-C for 13.8V/3.5A
- SNP-PA59 for 24V/2.3A
- SNP-PA5T for 48V/1.1A

Over voltage protection .....	auto recovery
	trip point at 5.7 to 7V
Operating temperature.....	0 to 50°C
Cooling .....	free air convection
Storage temperature.....	-40°C to +85°C
EMI conduction standard.....	FCC class "B"
	VDE 0871 curve "B"
EMI radiation .....	FCC class "B"
Safety .....	UL 1950
	CSA 22.2 No.234, VDE 60 950

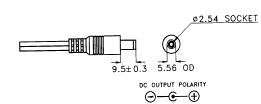
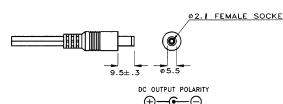
### Notes:

1. Dimensions  
80 X 165 X 56 (mm)  
3.15" X 6.50" X 2.20"
2. Packing:  
Net weight: 580 g approx. / unit  
Gross weight: 16 kg approx. / carton,  
24 units / carton  
Carton size (mm): 439 (L) x 411 (W) x 315 (H)
3. Connectors:  
AC input: IEC 320 / CEE 22  
Standard Inlet
4. Color:  
SNP-PA5X : Black  
SNP-PA5X-1 : Beige
5. DC output connectors and pin assignment:  
SNP-PA51, SNP-PA53, SNP-PA54:  
Type: 5 Pin at 180° Din plug

PA51	PA53	PA54
+5V	+5V	+5V
+12V	+12V	+15V
GND	GND	GND
-12V	NC	-15V
GND	GND	GND

SNP-PA55, SNP-PA57, SNP-PA58:  
Type: DC Power Jack, Ø2.1 Socket type

SNP-PA59:  
Type: DC Power Jack, Ø2.5 Socket type



## Output Specifications:

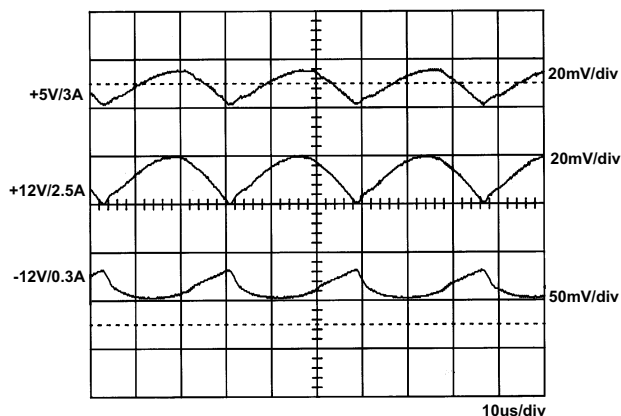
MODEL NO.	OUTPUT RAIL	LOAD			VOLTAGE ACCURACY	RIPPLE NOISE	LINE REG.	LOAD REG.
		MIN.	RATED	PEAK				
SNP-PA51	+5V	0A	3A	4A	+4.85~+5.15V	1%	±1%	±5%
	+12V	0A	2.5A	3A	+11.4~+12.6V	1%	±1%	±6%
	-12V	0A	0.3A	0.5A	-11.0~-13.0V	1%	±1%	±5%
SNP-PA53	+5V	0A	3.5A	4A	+4.85~+5.15V	1%	±1%	±5%
	+12V	0A	2.5A	3A	+11.4~+12.6V	1%	±1%	±6%
SNP-PA54	+5V	0A	3A	4A	+4.85~+5.15V	1%	±1%	±5%
	+15V	0A	1.5A	2A	+14.25~+15.75V	1%	±1%	±6%
	-15V	0A	0.3A	0.5A	-13.5V~-16.5V	1%	±1%	±5%
SNP-PA5C	+9V	0A	5A		+8.5V~+9.5V	1%	±1%	±5%
SNP-PA55	+18V	0A	3A		+17.0V~+19.0V	1%	±1%	±5%
SNP-PA57	+12V	0A	4.2A		+11.4V~+12.6V	1%	±1%	±5%
SNP-PA58	+15V	0A	3.5A		+14.25V~+15.75V	1%	±1%	±5%
SNP-PA58-C	+13.8V	0A	3.5A	4A	+13.2V~+14.5V	1%	±1%	±5%
SNP-PA59	+24V	0A	2.3A		+23.0V~+25.0V	1%	±1%	±5%
SNP-PA5T	+48V	0A	1.1A		+45.6V~+50.4V	0.05%	±1%	±5%

### Note:

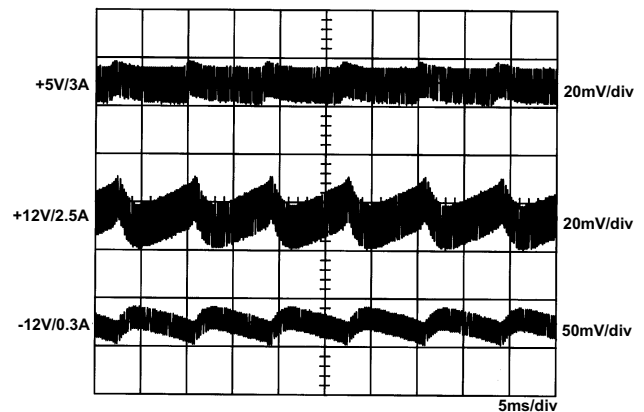
1. Each output can provide up to peak load temporarily. Continuous staying in more than rated load will reduce the reliability.
2. At factory, all outputs in 60% rated load condition, each output is checked to be within the accuracy range while the main output is setting to within the accuracy range at rated load.
3. Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
4. Load regulation is defined by changing  $\pm 40\%$  of measured output load from 60% rated load at another output set to 60% rated load.
5. Ripple & noise is measured by using 15MHz bandwidth limited oscilloscope and terminated each output with a 0.47 $\mu$ F capacitor at rated load and nominal line.
6. Hold up time is measured from the end of the last charging pulse to the time which the +5V output drop down to 4.75V at rated load and nominal line.
7. Efficiency is measured at rated load.

## Performance for SNP-PA51

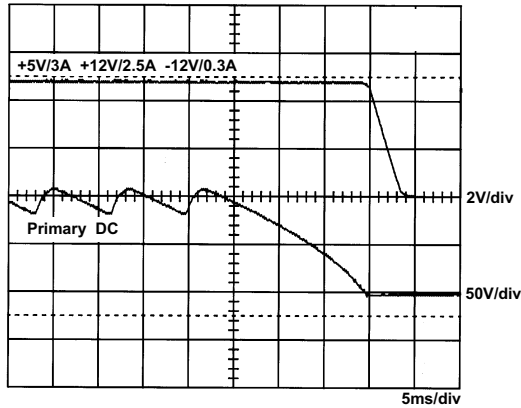
### 1. Switching frequency ripple



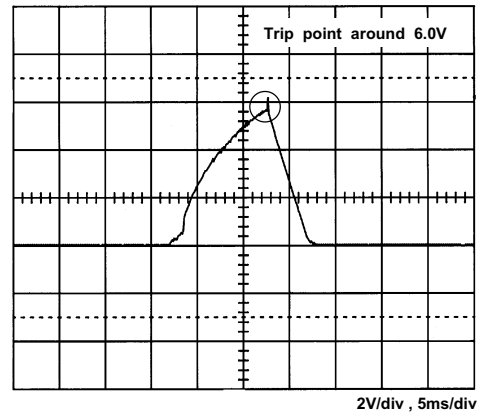
### 2. Line frequency ripple



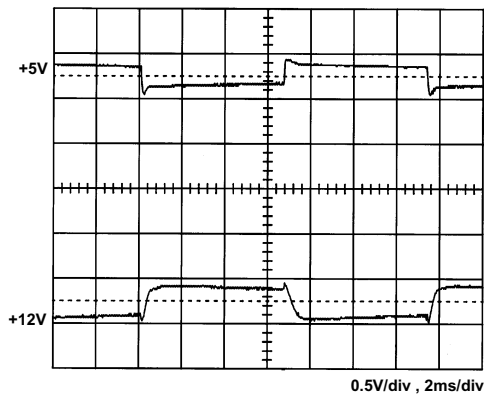
### 3. Hold-up time



### 4. Over voltage protection

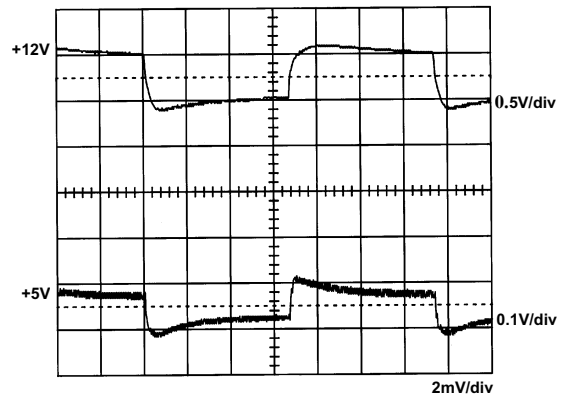


### 5. +5V step response



+5V step from 0.6A to 3A  
other output at 60% load

### 6. +12V step response



+12V step from 0.5A to 2.5A  
other output at 60% load

### 7. Radiation FCC B Performance

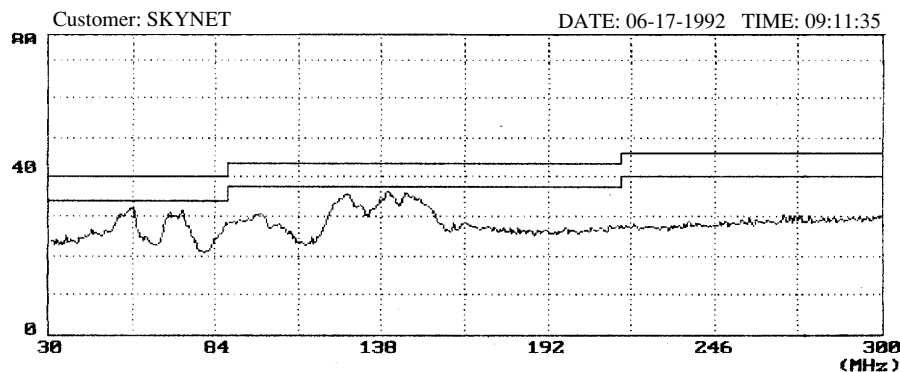
Data 139  
(dBuV/m)

Sweep Time:  
0.5 sec  
Res. BW:  
100 KHz  
Video BW:  
100KHz

Antenna:  
BBA9106B  
Horizontal  
Limit line:

FCC Class B  
3m

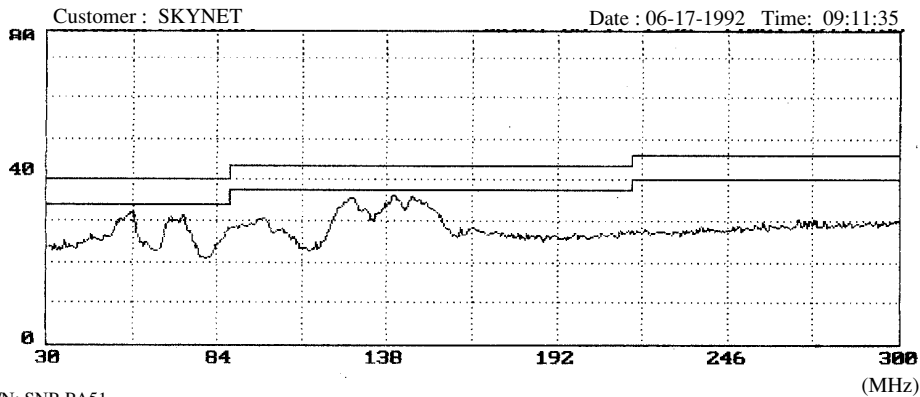
EUT : SPS, M/N: SNP-PA51  
Power : 120Vac, 60Hz  
Memo : CHAMBER, 8568B Spectrum Analyzer



TAIWAN TOKIN EMC ENG. CORP.

DATA 139  
(DBuv/m)  
Sweep Time:  
0.5 sec  
Res. BW:  
100 KHz  
Video BW:  
100 KHz

Antenna:  
BBA9106B  
Horizontal  
Limit line:  
FCC Class B  
3m



EUT : SPS. M/N: SNP-PA51  
Power : 120Vac, 60Hz  
Memo : CHAMBER. 8568B SPECTRUM ANALYZER

TAIWAN TOKIN EMI ENG. CORP.

8. VDE B performance

