



### Description:

SNP-954 series is a 40W, universal input switching mode power supply. It is with various output options, which includes triple outputs, dual outputs and single output. It is designed to comply with UL, CSA, VDE regulations and EMI Vfg 243/1991.

### Model available:

- SNP-9541 for 5V/3A, 12V/2A, -12V/0.3A
- SNP-9542 for 5V/3A, 12V/2A, -5V/0.3A
- SNP-9543 for 5V/3A, 12V/2A
- SNP-9543-H for 5V/5A, 3.3V/4A
- SNP-9544 for 5V/3A, 15V/1.5A, -15V/0.3A
- SNP-9546 for 5V/8A
- SNP-9547 for 12V/3.3A
- SNP-9548 for 15V/2.6A
- SNP-9549 for 24V/1.7A

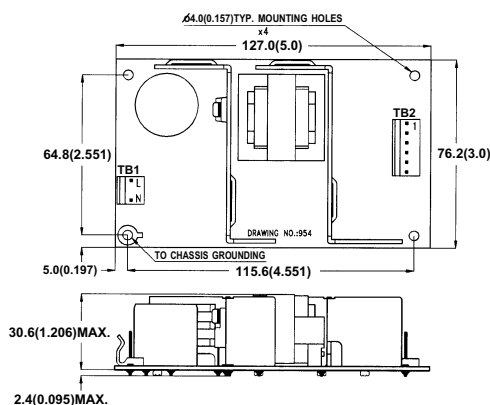
### General Specifications:

Input voltage .....	90VAC to 264VAC
Input frequency.....	47Hz to 63Hz
Inrush current.....for SNP-9541,9542,9543,9544	less than 30A at 115VAC
(Cold start)	less than 60A at 230VAC
Inrush current.....for SNP-9546,9547,9548,9549	less than 10A at 115VAC
(Cold start)	less than 21A at 230VAC
Efficiency .....	higher than 70%
	at rated load and 115VAC
Hold up time.....	longer than 20ms
	at rated load and 115VAC

Over load protection .....	auto recovery & latch off for SNP-9543
Short circuit protection .....	auto recovery & latch off for SNP-9543
Over voltage protection .....	crowbar
Operating temperature (open frame type) .....	0 to 50°C
Cooling .....	free air convection
Storage temperature .....	-20°C to +85°C
EMI conduction standard .....	Vfg 243/1991 FCC Class "B"
Safety .....	meet UL 60950-1 CSA 22.2 No.60950-1 EN 60950-1

### Mechanical Specifications:

SNP-9541



### Notes:

1. Dimensions shown in mm (inch) as left. Tolerance specified is  $\pm 0.4$ mm.
2. Size:  
76.2 X 127 X 33 (mm)  
3" X 5" X 1.3"
3. Mounting holes:  
64.8 X 115.6 (mm)  
2.55" X 4.55"
4. Packing:  
Net weight: 250 g approx. / unit  
Gross weight: 14 kg approx. / carton, 48 units / carton  
Carton size (mm): 397 (L) x 339 (W) x 327 (H)
5. Connectors:  
TB1 : Molex 5277-2 or equivalent for AC input  
TB2 : Molex 5273-x or equivalent for DC output

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6. TB2 Assignment

Model \ Pin	1	2	3	4	5	6	7	8
SNP-9541	+12V	+5V	+5V	GND	GND	-12V		
SNP-9542	+12V	+5V	+5V	GND	GND	-5V		
SNP-9543	+12V	GND	GND	+5V				
SNP-9543-H	+3.3V	+3.3V	GND	GND	GND	GND	+5V	+5V
SNP-9544	+15V	+5V	+5V	GND	GND	-15V		

Model \ Pin	1	2	3	4	5	6
SNP-9546	+5V	+5V	+5V	GND	GND	GND
SNP-9547	+12V	+12V	+12V	GND	GND	GND
SNP-9548	+15V	+15V	+15V	GND	GND	GND
SNP-9549	+24V	+24V	+24V	GND	GND	GND

**Output Specifications:**

MODEL NO.	OUTPUT RAIL	LOAD			VOLTAGE ACCURACY	RIPPLE NOISE	LINE REG.	LOAD REG.
		MIN.	RATED	PEAK				
SNP-9541	+5V	0A	3A	6A	+4.95V~+5.05V	50mV	±1%	±3%
	+12V	0A	2A	4A	+11.4V~+12.6V	120mV	±2%	±3%
	-12V	0A	0.3A	0.5A	-11.4V~-12.6V	120mV	±3%	±5%
SNP-9542	+5V	0A	3A	6A	+4.95V~+5.05V	50mV	±1%	±1%
	+12V	0A	2A	4A	+11.4V~+12.6V	100mV	±2%	±3%
	-5V	0A	0.3A	0.5A	-4.75V~-5.25V	100mV	±3%	±5%
SNP-9543	+5V	0A	3A	5.5A	+4.95V~+5.05V	50mV	±1%	±1%
	+12V	0A	2A		+11.4V~+12.6V	120mV	±1%	±4%
SNP-9543-H	+5V	0A	5A	8A	+4.95V~+5.05V	50mV	±1%	±1%
	+3.3V	0A	4A	8A	+3.14V~+3.47V	50mV	±1%	±1%
SNP-9544	+5V	0A	3A	5A	+4.95V~+5.05V	50mV	±1%	±1%
	+15V	0A	1.5A	3A	+14.25V~+15.75V	150mV	±1%	±3%
	-15V	0A	0.3A	0.5A	-14.25V~-15.75V	150mV	±1%	±3%
SNP-9546	+5V	0A	8A	12A	+4.75V~+5.25V	50mV	±1%	±1%
SNP-9547	+12V	0A	3.3A	5A	+11.9V~+12.1V	100mV	±1%	±1%
SNP-9548	+15V	0A	2.6A	4A	+14.85V~+15.15V	100mV	±1%	±1%
SNP-9549	+24V	0A	1.7A	2.5A	+23.8V~+24.2V	240mV	±1%	±1%

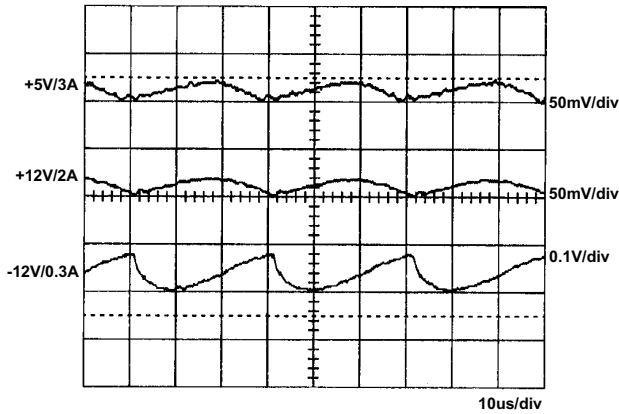
**Note:**

- Each output can provide up to peak load temporarily. Continuous staying in more than rated load is not allowed.
- 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 specified accuracy range at rated load.
- Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
- Load regulation is defined by changing ±40% of measured output load from 60% rated load at another output set to 60% rated load.
- Ripple & noise is measured by using 15MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF capacitor at rated load and nominal line.
- Hold up time is measured from the end of the last charging pulse to the time which the main output drop down to regulation limit at rated load and nominal line.
- Rated load is maximum loading for flat mounting and free air convection cooling.

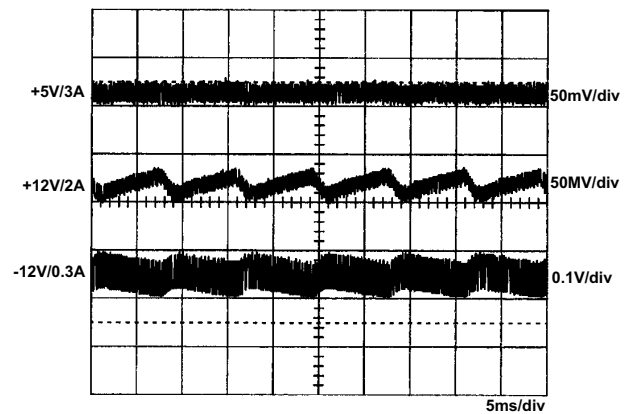
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## Performance for SNP-9541:

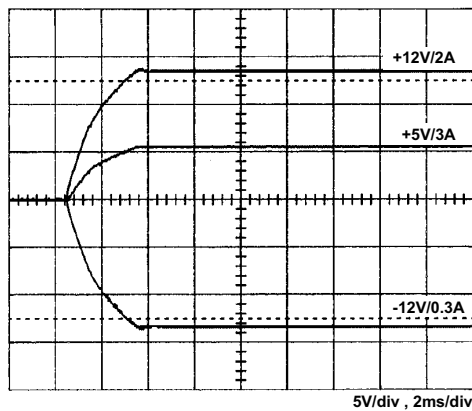
### 1. Switching frequency ripple



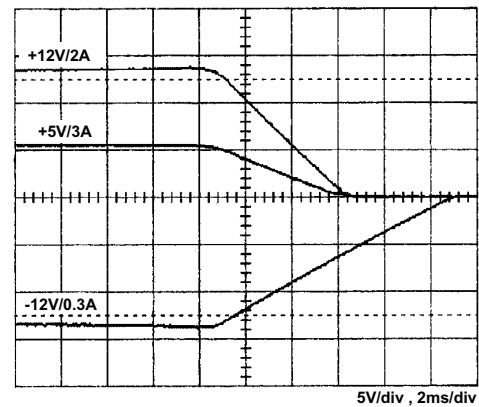
### 2. Line frequency ripple



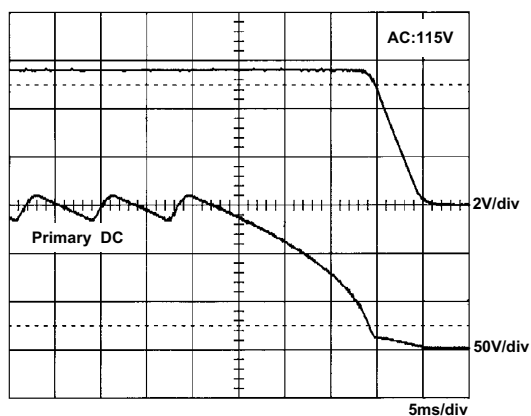
### 3. Output turn on wave form



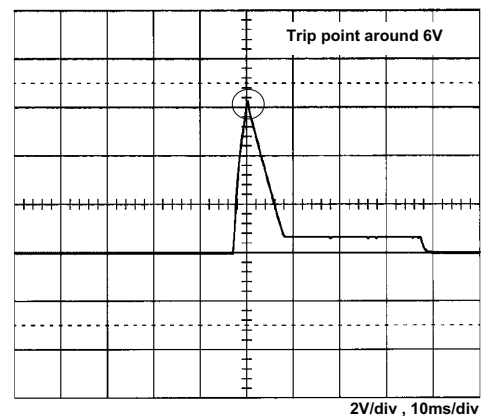
### 4. Output turn off wave form



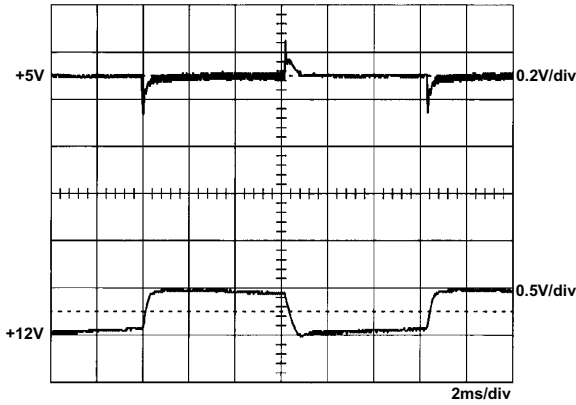
### 5. Hold-up time



### 6. Over voltage protection

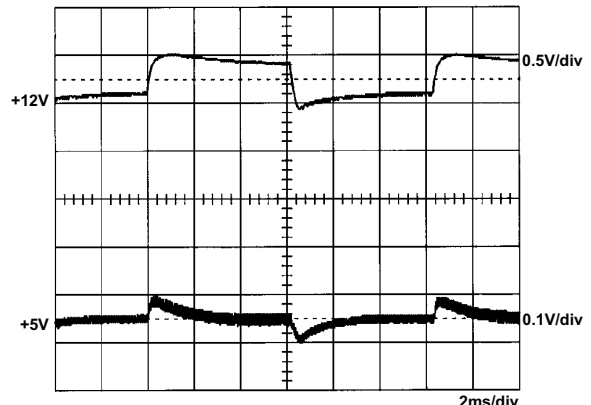


### 7. +5V step response



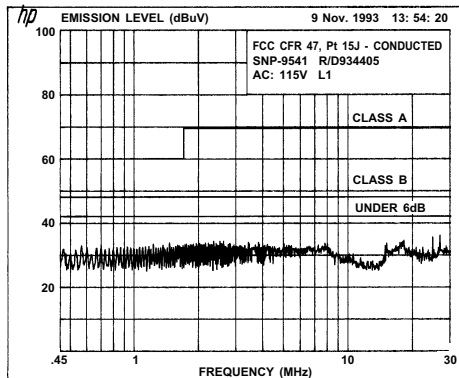
+5V steps from 0.6A to 3A  
other output at 60% load

### 8. +12V step response



+12V steps from 0.4A to 2A  
other output at 60% load

### 9. FCC B performance



### 10. Vfg 243 performance

