



# General Purpose (Universal)

**30W  
SNP-903 Series**



## Description:

SNP-903 series is a 30W, universal input switching mode power supply. It is with various output options, which includes triple outputs, dual outputs and single output. Its design meets with UL, CSA, VDE regulations and EMI Vfg 243/1991.

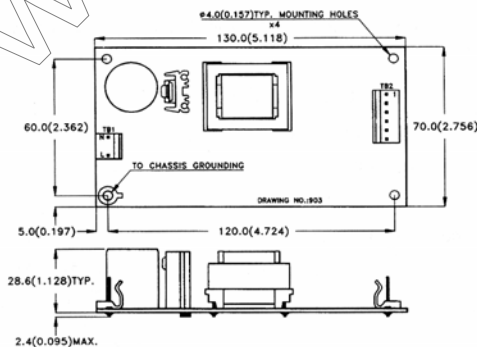
## General Specifications:

Input voltage .....90VAC to 260VAC  
 Input frequency..... 47Hz to 63Hz  
 Inrush current ..... less than 30A at 115VAC  
 (Cold start) less than 60A at 230VAC  
 Outputs ..... see output table  
 Efficiency ..... higher than 70%  
 at rated load and 115VAC  
 Hold up time ..... longer than 16ms  
 at rated load and 115VAC

Over load protection ..... refer to spec.  
 Short circuit protection ..... refer to spec.  
 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 ..... FCC class "B"  
 Vfg 243/1991  
 Safety ..... UL 1950 D3  
 CSA 22.2 No.234  
 VDE EN60 950

## Mechanical Specifications:

SNP-9033



### Notes:

- Dimensions shown in mm (inch) as above. Tolerance specified is  $\pm 0.4$ mm.
- Size  
70 X 130 X 32.1 mm  
2.756" X 5.118" X 1.264"
- Mounting holes  
60 X 120 mm  
2.362" X 4.724"
- Connectors  
TB1 : Molex 5277-2 or equivalent for AC input  
TB2 : Molex 5273-x or equivalent for DC output  
TB2 pin Assignment

PIN NO.	1	2	3	4	5	6
SNP-9031	+5V	+5V	GND	GND	-12V	+12V
SNP-9033	+5V	+5V	GND	GND	NC	+12V
SNP-9034	+5V	+5V	GND	GND	-15V	+15V
SNP-9035	+5V	+5V	GND	GND	NC	+24V
SNP-9036	+5V	+5V	GND	GND		
SNP-9037	+12V	+12V	GND	GND		
SNP-9038	+15V	+15V	GND	GND		
SNP-9039	+24V	+24V	GND	GND		



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## Output Specifications:

MODEL NO.	OUTPUT RAIL	LOAD			VOLTAGE ACCURACY	RIPPLE NOISE	LINE REG.	LOAD REG.
		MIN.	RATED	PEAK				
SNP-9031	+5V	0A	2A	3A	+4.95~+5.05V	1%	±1%	±1%
	+12V	0A	1.5A	3A	+11.4~+12.6V	1%	±1%	±4%
	-12V	0A	0.3A	0.5A	-11.4~-13.0V	1%	±1%	±5%
SNP-9033	+5V	0A	2A	3A	+4.95~+5.05V	1%	±1%	±1%
	+12V	0A	1.5A	3A	+11.4~+12.6V	1%	±1%	±5%
SNP-9034	+5V	0A	1.5A	3A	+4.98~+5.02V	1%	±1%	±1%
	+15V	0A	1.2A	2A	+14.25~+15.75V	1%	±1%	±4%
	-15V	0A	0.3A	0.5A	-14.00~-16.00V	1%	±1%	±4%
SNP-9035	+5V	0A	2A	3A	+4.95~+5.05V	1%	±1%	±1%
	+24V	0A	0.75A	1.5A	+22.8~+25.20V	1%	±1%	±3%
SNP-9036	+5V	0A	6A	10A	+4.98~+5.03V	1%	±1%	±1%
SNP-9037	+12V	0A	2.5A	4A	+11.97~+12.03V	1%	±1%	±1%
SNP-9038	+15V	0A	2A	3A	+14.85~+15.15V	1%	±1%	±1%
SNP-9039	+24V	0A	1.3A	2A	+23.82~+24.21V	1%	±1%	±1%

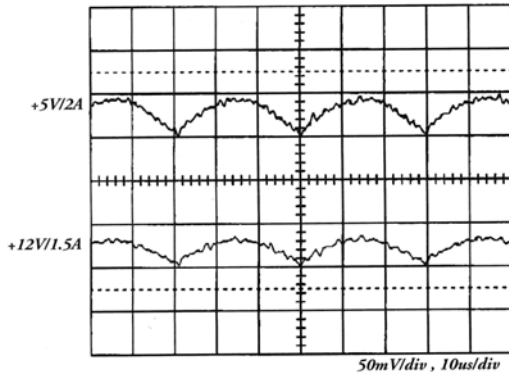
### Note:

1. Each output can provide up to peak load temporarily. Continuous staying in more than rated load is not allowed.
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 specified 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 main output drop down to regulation limit at rated load and nominal line.
7. Rated load is maximum loading for flat mounting and free air convection cooling.

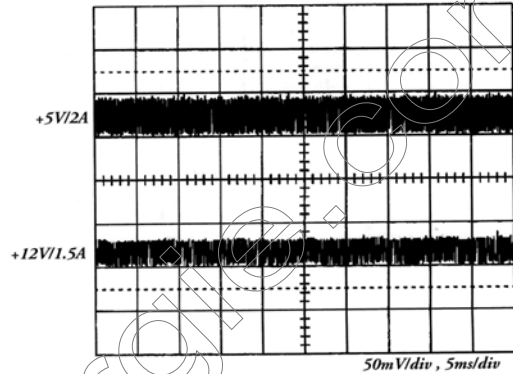


### Performance for SNP-9033:

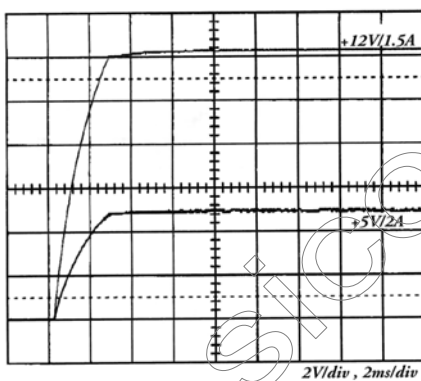
1. Switching frequency ripple



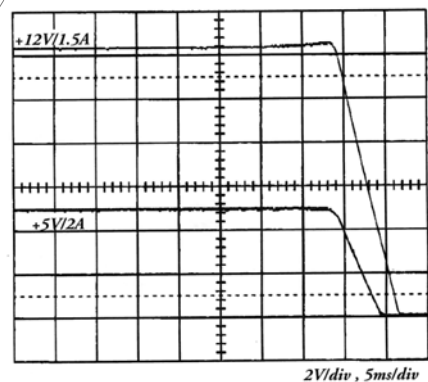
2. Line frequency ripple



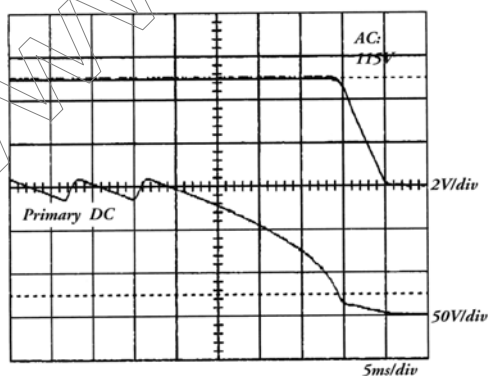
3. Output turn on wave form



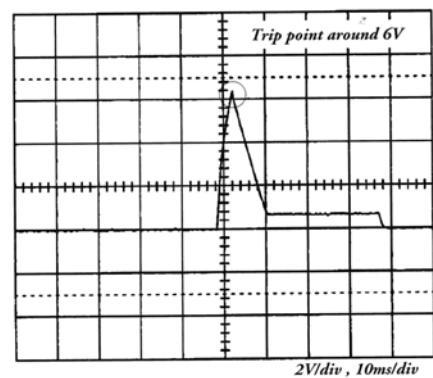
4. Output turn off wave form



5. Hold-up time



6. Over voltage protection

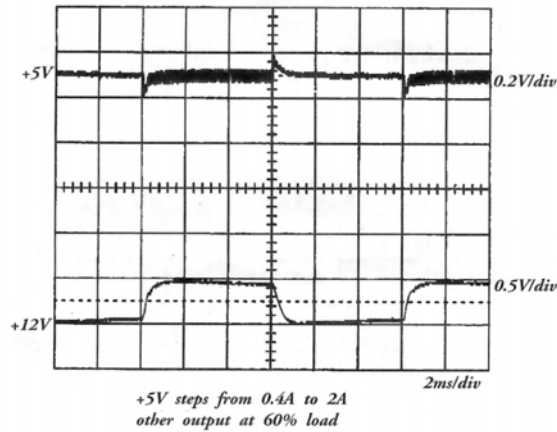




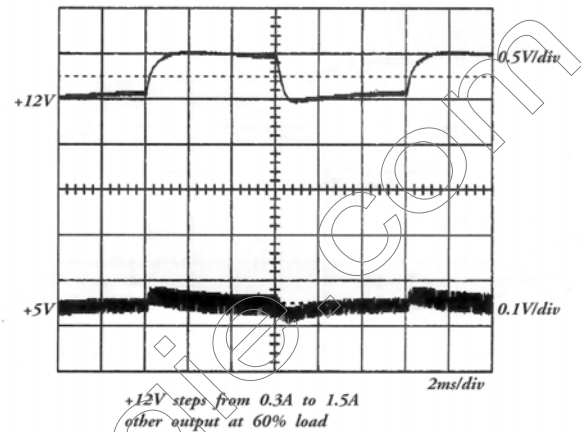
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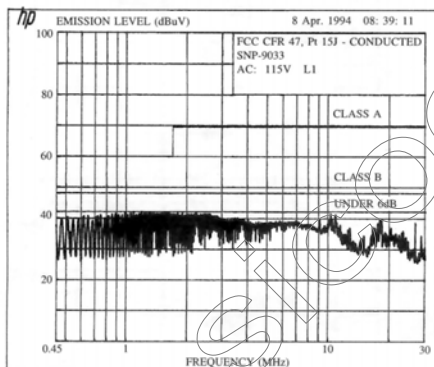
7. + 5V step response



8. + 12V step response



9. FCC B performance



10. Vfg 243/1991 performance

