Medical Family (Universal)



Description:

SNP-954X-M1 series is a 40W, universal input switching power supply. It is with various output options, which includes triple outputs, dual outputs and single output. It is designed to comply with UL2601-1, EN 60601-1. It is ideal for small digitally based systems used in medical and dental patient environment.

Model available:

- SNP-9541-M1 for 5V/3A, 12V/2A, -12V/0.3A
- SNP-9546-M1 for 5V/8A
- SNP-9547-M1 for 12V/3.3A
- SNP-9548-M1 for 15V/2.6A
- SNP-9549-M1 for 24V/1.7A

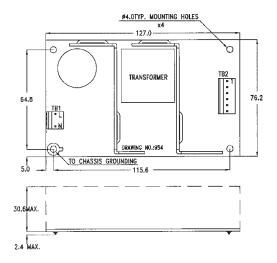
General Specifications:

Input voltage	90VAC to 264VAC
Input frequency	47Hz to 63Hz
Inrush current	less than 30A at 115VAC
(Cold start)	less than 60A at 230VAC
Efficiency	higher than 70%
	at rated load and 115VAC
Hold up time	20mS (typ.)
	at rated load and 115VAC
Overload protection	auto recovery

Short circuit protection auto recovery
Over voltage protection auto recovery
Operating temperature 0 to 50°C, rated load
Cooling free air convection
Storage temperature20°C to +85°C
EMI meet FCC docket 20780 curve "B"
EN55011 "B"
SafetyUL 2601-1 (UL file no. E158990)
CSA 601-1 (CUL)
EN60601-1 (T9575002.07)

Mechanical Specifications:

SNP-9547-M1



Note:

- Dimensions shown in mm as left. Tolerance specified is ± 0.4 mm.
- Dimensions shown in mm as left. Tolerance P.C.B. Size: 76.2 X 127 X 31.2 (mm) for SNP-9541-M1 3 X 5 X 1.23 (inch) 76.2 X 127 X 30.6 (mm) for others 3 X 5 X 1.204 (inch) Mounting Hole: 64.8 X 115.6 (mm) 2.55 X 4.55 (inch)
- 2.55 x 4.55 (Incu)
 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)
- Connectors: TB1: Molex 5277-2 or equivalent for AC input TB2: Molex 5273-X or equivalent for DC output DC output Pin Assignment

PIN MODEL	1	2	3	4	5	6
SNP-9541-M1	+12V	+5V	+5V	GND	GND	-12V
SNP-9546-M1	+5V	+5V	+5V	GND	GND	GND
SNP-9547-M1	+12V	+12V	+12V	GND	GND	GND
SNP-9548-M1	+15V	+15V	+15V	GND	GND	GND
SNP-9549-M1	+24V	+24V	+24V	GND	GND	GND

-James-

Medical Family (Universal)

Output Specifications:

MODEL NO.	OUTPUT RAIL	MIN.	LOAD RATED	PEAK	VOLTAGE ACCURACY	RIPPLE NOISE	LINE REG.	LOAD REG.
SNP-9541-M1	+5V	0A	3A	6A	+4.95V~+5.05V(adj)	50mVpp	±1%	±3%
	+12V	0A	2A	4A	+11.4V~+12.6V	100mVpp	±2%	±3%
	-12V	0A	0.3A	0.5A	-11.40V~-12.6V	100mVpp	±3%	±5%
SNP-9546-M1	+5V	0A	8A	12A	+4.75V~+5.25V(adj)	50mVpp	±1%	±1%
SNP-9547-M1	+12V	0A	3.3A	5A	+11.90V~+12.10V(adj)	100mVpp	±1%	±1%
SNP-9548-M1	+15V	0A	2.6A	4A	+14.85V~+15.15V(adj)	14.85V~+15.15V(adj) 100mVpp		±1%
SNP-9549-M1	+24V	0A	1.7A	2.5A	+23.8V~+24.2V(adj)	240mVpp	±1%	±1%

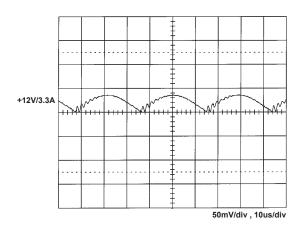
Note:

- 1. Each output can provide up to peak load temporarily. Continuous staying in more than rated load will reduce the reliability.
- 2. Voltage accuracy is measured with all outputs set at 60% rated load and main output is adjusted to $\pm 1\%$.
- 3. Line Regulation measuring is done at rated loading and ±10% of input voltage changing.
- 4. Load Regulation measuring is done by changing the measured output loading ±40% from 60% rated load, and keep all other outputs at 60% rated load.
- 5. Ripple & Noise measuring is done by 15MHz band width limited oscilloscope and terminated each output with a 0.47uF capacitor at rated loading.
- 6. Efficiency is measured at rated load.
- 7. Hold Up Time is measured from the end of the last full charging pulse to when the main output drop down to 95% output voltage.

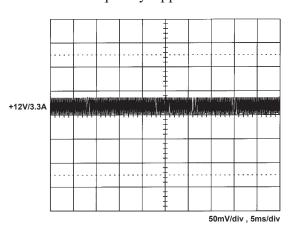
Medical Family (Universal)

Performance for SNP-9547-M1:

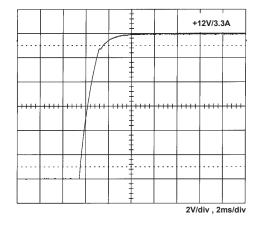
1. Switching frequency ripple



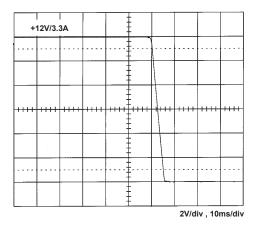
2. Line frequency ripple



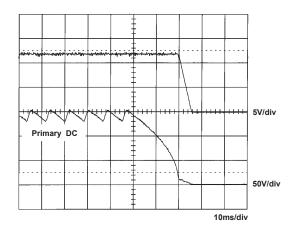
3. Output turn on wave form



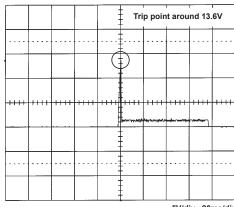
4. Output turn off wave form



5. Hold-up time



6. Over voltage protection

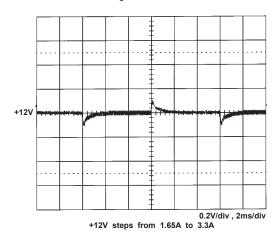


5V/div , 20ms/div

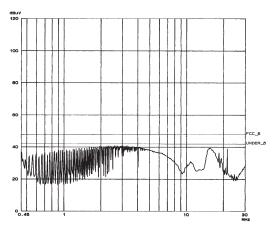
-James-

Medical Family (Universal)

7. Transient response



8. FCC B



9. EN 55022 B

