

Rated 45W Peak 60W SNP-Y04 Series



#### **Features:**

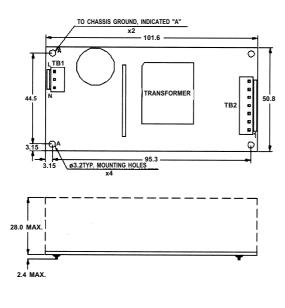
- Only 1.1 inch height
- 4.7 Watt per cubic inch
- With ITE & Medical safety
- Efficiency between 76% to 85%
- Operation from 0°C to 70°C by convection
- Single side PCB for low assembly cost

## **General Specifications:**

Input voltage	90VAC to 264VAC
Input frequency	47Hz to 63Hz
Inrush current	less than 30A at 115VAC
	less than 60A at 230VAC
Efficiency	76%~85% depends on models
	at rated load and 115VAC
Hold up time	14ms typical
Earth leakage current	< 300uA
Over load protection	auto recovery
Short circuit protection	auto recovery

Over voltage protection	latch off
Operating temperature	0 to 70°C convection
	derating: $2.5\% / ^{\circ}\text{C} > 50^{\circ}\text{C}$
Cooling	free air convection
Storage temperature	-40°C to +85°C
EMI	FCC "B"
	EN55022"B", EN55011"B"
EMS	EN61000-4-2,-3,-4,-5,-6,-8,-11
Safety	UL 60950-1, UL 60601-1
	CSA C22.2 No. 60950-1, 601.1
	EN 60950-1, EN 60601-1

## **Mechanical Specifications:**



#### **Notes:**

- 1. Dimensions shown in mm as left. Tolerance: +-1mm (Excluding cables).
- 2. Size: 50.8 X 101.6 X 28 (mm)
- 2" X 4" X 1.102"

  3. Packing
  Net weight: 127 g approx. / unit
  Gross weight: 12.6 kg approx. / carton, 80 units / carton
  Carton size (mm): 382 (L) x 374 (W) x 277 (H)
- Connectors
   AC input: JST B2P3-VH or equivalent
   DC output: JST B4P-VH or equivalent for single
   JST B6P-VH or equivalent for multiple outputs
- Output Pin assignment

PIN NO.	1	2	3	4	5	6
SNP-Y041	+5V	+5V	GND	GND	+12V	-12V
SNP-Y043	+5V	+5V	GND	GND	+12V	NC
SNP-Y04F	+5V	+5V	GND	GND	+24V	+12V
SNP-Y046	+5V	+5V	GND	GND		
SNP-Y047	+12V	+12V	GND	GND	+5V	NC
SNP-Y047-1	+12V	+12V	GND	GND		
SNP-Y048	+15V	+15V	GND	GND	+5V	NC
SNP-Y048-1	+15V	+15V	GND	GND		
SNP-Y049	+24V	+24V	GND	GND	+5V	NC
SNP-Y049-1	+24V	+24V	GND	GND		
SNP-Y04T	+48V	+48V	GND	GND		

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### **Output Specifications:**

MODEL	OUTPUT	LOAD				VOLTAGE	RIPPLE	LINE	LOAD	EFFICIENCY
NO.	RAIL	MIN.	RATED	MAX.	PEAK	ACCURACY	NOISE	REG.	REG.	TYPICAL
SNP-Y041	+5V +12V -12V	0A 0A 0A	3A 2A 0.3A	4A 3A	5A 4A	+4.9V~+5.1V +11.4V~+12.6V -11.4V~-12.6V	1% 1% 1%	±1% ±1% ±1%	±3% ±3% ±5%	80%
SNP-Y043	+5V +12V	0A 0A	3A 2.3A	4A 3.3A	5A 4A	+4.9V~+5.1V +11.4V~+12.6V	1% 1%	±1% ±1%	±3% ±3%	80%
SNP-Y04F	+5V +24V +12V	0A 0A 0A	3A 1A 0.3A	4A 1.5A	6A 2.4A	+4.95V~+5.05V +22,8V~+25.2V +11.4V~+12.6V	1% 1% 1%	±1% ±1% ±1%	±3% ±3% ±5%	81%
SNP-Y046	+5V	0A	7A		10A	+4.95V~+5.05V	1%	±1%	±1%	77%
SNP-Y047	+12V +5V	0A 0A	3.3A 0.5A		5A	+11.88V~+12.12V +4.75V~+5.25V	1% 1%	±1% ±1%	±1% ±1%	80%
SNP-Y047-1	+12V	0A	3.7A		5A	+11.88V~+12.12V	1%	±1%	±1%	81%
SNP-Y048	+15V +5V	0A 0A	2.6A 0.5A		4A	+14.85V~+15.15V +4.75V~+5.25V	1% 1%	±1% ±1%	±1% ±1%	80%
SNP-Y048-1	+15V	0A	3A		4A	+14.85V~+15.15V	1%	±1%	±1%	81%
SNP-Y049	+24V +5V	0A 0A	1.7A 0.5A		2.5A	+23.75V~+24.24V +4.75V~+5.25V	1% 1%	±1% ±1%	±1% ±1%	82%
SNP-Y049-1	+24V	0A	1.9A		2.5A	+23.75V~+24.24V	1%	±1%	±1%	83%
SNP-Y04T	+48V	0A	1A		1.35A	+47.6V~+48.4V	1%	±1%	±1%	85%
SNP-Y04D	+3.3V +5V +12V	0A 0A 0A	4A 3A 0.3A		5A 4A	+3.26V~+3.33V +4.75V~+5.25V +11.40V~+12.80V	1% 1% 1%	±1% ±1% ±1%	±3% ±3% ±5%	75%

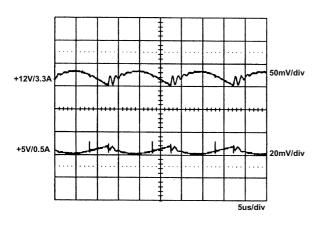
#### Note:

- 1. At peak load, the output can last for 8 seconds without shut down.
- 2. The maximum combinational load of SNP-Y04D for +3.3V & +5V is 28W.
- 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.
- 4. Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
- 5. Load regulation is defined by changing ±40% of measured output load from 60% rated load at another output set to 60% rated load.
- 6. 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.
- 7. 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
- 8. The efficiency is measured at nominal line and rated load.

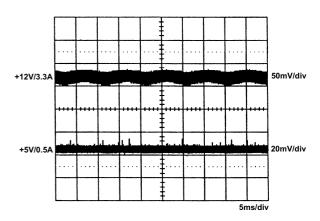
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#### **Performance for SNP-Y047:**

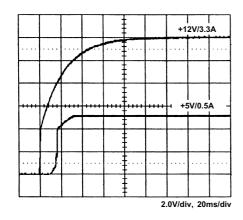
### 1. Switching frequency ripple



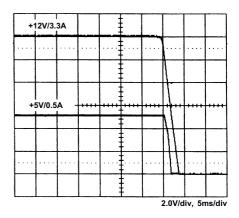
### 2. Line frequency ripple



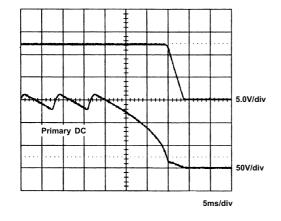
### 3. Output turn on wave form



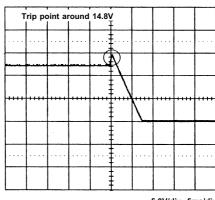
4. Output turn off wave form



### 5. Hold-up time



6. Over voltage protection

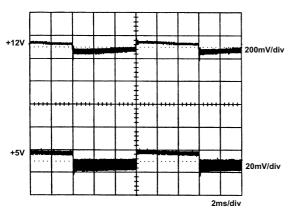


5.0V/div, 5ms/div

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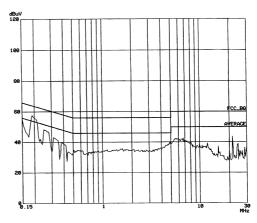
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### 7. +12V step response



+12V step from 0.66A to 3.3A other output at 60% rated load

#### 8. FCC B



#### 9. EN 55011 B

