

# **SNP-Y09 Series**

Rated 90W Peak 135W



#### **Features**

- 3" x 5" footprint
- Compact Size wiht only 1.18" Height
- ITE & Medical Dual Safety Compliant
- Cost effective

# ROHS C & FC

## **Model Selection**

Model No.	Output Rail	Load				Initial	Ripple& Load		<b>□</b> #: • : • • • • · ·	
		Min	Rated	Max*	Peak*	Accuracy*	Noise*	Regulation	Efficiency	
SNP-Y096	+5V	0A	17A			+4.97V~+5.03V	1%	±1%	83%	
SNP-Y09T	+48V	0A	1.85A			+47.6V~+48.4V	1%	±1%	86%	
SNP-Y097	+12V	0A	6.6A		11A	+11.88V~+12.12V	1%	±1%	82%	
	+5V	0A	1A			+4.75V~+5.25V	1%	±1%		
SNP-Y098	+15V	0A	5.6A		9A	+14.85V~+15.15V	1%	±1%	82%	
	+5V	0A	1A			+4.75V~+5.25V	1%	±1%		
SNP-Y099	+24V	0A	3.5A		5.5A	+23.76V~+24.24V	1%	±1%	84%	
SNP-1099	+5V	0A	1A			+4.75V~+5.25V	1%	±1%		
	+5V	0A	5A	8A	15A	+4.9V~+5.1V	1%	±3%	80%	
SNP-Y090	+12V	0A	4A	6A	10A	+11.4V~+12.6V	1%	±3%		
	-12V	0A	0.5A			-11.4V~-12.6V	1%	±3%		
	-5V	0A	0.5A			-4.75~-5.25V	1%	±5%		
SNP-Y09E*	+3.3V	0A	7A	8A	10A	+3.2V~+3.4V	50mV	±3%	80%	
	+5V	0A	5A	8A	12A	+5.08V~-+5.10V	1%	±3%		
	+12V	0A	2.5A			+11.4V~+12.6V	1%	±5%		
	-12V	0A	0.5A			-11.4V~-12.6V	1%	±5%		

# **General Specifications**

— Input & Output —         — EMC —           Input voltage range         90VAC to 264VAC         Emission         FCC/CISPR, level B           Label voltage         100VAC to 240VAC         Harmonic currents         EN61000-3-2, class A           Nominal line voltage         115VAC / 230VAC         ESD         EN61000-4-2, criterion A           Input frequency range         47Hz to 63Hz         4kV contact, 8kV air discharge           Inrush current*         <30A at 115VAC, <60A at 230VAC         Radiated immunity         EN61000-4-3           Line regulation         <±1%         10V/M with 80% AM, criterion A           Hold-up time         20ms typ.         EFT/Burst         EN61000-4-4, 4kV, criterion A           Surge         EN61000-4-5, 1kV L-L, 2kV L-E, criterion A           Over Voltage*         Latch-off         MS         EN61000-4-6, 10V with 80% AM, criterion A           Over Load / Short         Auto-recovery         Voltage dips         EN61000-4-8, 3A/m, criterion A           Over Load / Short         Auto-recovery         Voltage dips         EN61000-4-11           Overating temperature         0°C to +70°C         95% dips 5000ms, criterion C           Cooling         Convection cooling           Power derating         Refer to Power Derating Curve         - Safety —           Sto	•			
Label voltage 100VAC to 240VAC Harmonic currents EN61000-3-2, class A  Nominal line voltage 115VAC / 230VAC ESD EN61000-4-2, criterion A  Input frequency range 47Hz to 63Hz AkV contact, 8kV air discharge  Inrush current* <30A at 115VAC, <60A at 230VAC Radiated immunity EN61000-4-3  Line regulation <±1% 10V/M with 80% AM, criterion A  Hold-up time 20ms typ. EFT/Burst EN61000-4-4, 4kV, criterion A  - Protection — Conducted immunity EN61000-4-5, 1kV L-L, 2kV L-E, criterion A  - Protection — Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A  Over Voltage* Latch-off MS EN61000-4-8, 3A/m, criterion A  Over Load / Short Auto-recovery Voltage dips EN61000-4-11  - Environmental — 60% dips 10ms, criterion C  Operating temperature O°C to +70°C  Cooling Convection cooling  Power derating Refer to Power Derating Curve — Safety —  Storage temperature -40°C to +75°C Approvals 60950-1 compliant  Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	- Input & Output -		— <b>ЕМС</b> —	
Nominal line voltage 115VAC / 230VAC ESD EN61000-4-2, criterion A Input frequency range 47Hz to 63Hz 4kV contact, 8kV air discharge Inrush current* <30A at 115VAC, <60A at 230VAC Radiated immunity EN61000-4-3 Line regulation <±1% 10V/M with 80% AM, criterion A Hold-up time 20ms typ. EFT/Burst EN61000-4-4, 4kV, criterion A Surge EN61000-4-5, 1kV L-L, 2kV L-E, criterion A Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A  Over Voltage* Latch-off MS EN61000-4-11 30% dips 100ms, criterion A  - Environmental - 60% dips 100ms, criterion C Cooling Convection cooling Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Approvals 60950-1 compliant Relative humidity 10% to 90% RH, non-condensing	Input voltage range	90VAC to 264VAC	Emission	FCC/CISPR, level B
Input frequency range	Label voltage	100VAC to 240VAC	Harmonic currents	EN61000-3-2, class A
Inrush current* <30A at 115VAC, <60A at 230VAC Line regulation <±1% Hold-up time 20ms typ.  EFT/Burst EN61000-4-3, 4kV, criterion A Surge EN61000-4-5, 1kV L-L, 2kV L-E, criterion A  - Protection — Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A  Over Voltage* Latch-off MS EN61000-4-8, 3A/m, criterion A  Over Load / Short Auto-recovery Voltage dips EN61000-4-11  - Environmental — 60% dips 10ms, criterion C  Operating temperature 0°C to +70°C 95% dips 5000ms, criterion C  Cooling Convection cooling  Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Approvals 60950-1 compliant  Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Nominal line voltage	115VAC / 230VAC	ESD	
Line regulation <±1% 10V/M with 80% AM, criterion A Hold-up time 20ms typ. EFT/Burst EN61000-4-4, 4kV, criterion A Surge EN61000-4-5, 1kV L-L, 2kV L-E, criterion A  - Protection — Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A Over Voltage* Latch-off MS EN61000-4-8, 3A/m, criterion A Over Load / Short Auto-recovery Voltage dips EN61000-4-11  - Environmental — 60% dips 10ms, criterion C Operating temperature O°C to +70°C 95% dips 5000ms, criterion C Cooling Convection cooling Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Approvals 60950-1 compliant Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Input frequency range	47Hz to 63Hz		4kV contact, 8kV air discharge
Hold-up time 20ms typ. EFT/Burst EN61000-4-4, 4kV, criterion A  Surge EN61000-4-5, 1kV L-L, 2kV L-E, criterion A  - Protection — Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A  Over Voltage* Latch-off MS EN61000-4-8, 3A/m, criterion A  Over Load / Short Auto-recovery Voltage dips EN61000-4-11  - Environmental — 60% dips 10ms, criterion C  Operating temperature O°C to +70°C 95% dips 5000ms, criterion C  Cooling Convection cooling  Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Approvals 60950-1 compliant  Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Inrush current*	<30A at 115VAC, <60A at 230VAC	Radiated immunity	
Surge EN61000-4-5, 1kV L-L, 2kV L-E, criterion A  - Protection — Conducted immunity EN61000-4-6, 10V with 80% AM, criterion A  Over Voltage* Latch-off MS EN61000-4-8, 3A/m, criterion A  Over Load / Short Auto-recovery Voltage dips EN61000-4-11  - Environmental — 60% dips 10ms, criterion C  Operating temperature O°C to +70°C 95% dips 5000ms, criterion C  Cooling Convection cooling  Power derating Refer to Power Derating Curve  Storage temperature -40°C to +75°C Approvals 60950-1 compliant  Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Line regulation	<±1%		
— Protection —       Conducted immunity       EN61000-4-6, 10V with 80% AM, criterion A         Over Voltage*       Latch-off       MS       EN61000-4-8, 3A/m, criterion A         Over Load / Short       Auto-recovery       Voltage dips       EN61000-4-11         30% dips 10ms, criterion A       60% dips 10ms, criterion C         Operating temperature       0°C to +70°C       95% dips 5000ms, criterion C         Cooling       Convection cooling         Power derating       Refer to Power Derating Curve       - Safety —         Storage temperature       -40°C to +75°C       Approvals       60950-1 compliant         Relative humidity       10% to 90% RH, non-condensing       60601-1 compliant	Hold-up time	20ms typ.	EFT/Burst	EN61000-4-4, 4kV, criterion A
Over Voltage*  Over Load / Short  Auto-recovery  Voltage dips  EN61000-4-8, 3A/m, criterion A  Voltage dips  EN61000-4-11  30% dips 10ms, criterion A  - Environmental —  Operating temperature  O°C to +70°C  Cooling  Convection cooling  Power derating  Refer to Power Derating Curve  Storage temperature  -40°C to +75°C  Approvals  60950-1 compliant  Relative humidity  10% to 90% RH, non-condensing			Surge	EN61000-4-5, 1kV L-L, 2kV L-E, criterion A
Over Load / Short Auto-recovery Voltage dips EN61000-4-11 30% dips 10ms, criterion A  - Environmental — Operating temperature 0°C to +70°C Cooling Convection cooling Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Relative humidity 10% to 90% RH, non-condensing  Voltage dips EN61000-4-11 30% dips 10ms, criterion C 95% dips 5000ms, criterion C	- Protection -		Conducted immunity	EN61000-4-6, 10V with 80% AM, criterion A
30% dips 10ms, criterion A  - Environmental — Operating temperature 0°C to +70°C Cooling Convection cooling Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Relative humidity 10% to 90% RH, non-condensing 30% dips 10ms, criterion C 95% dips 5000ms, criterion C	Over Voltage*	Latch-off	MS	EN61000-4-8, 3A/m, criterion A
— Environmental —       60% dips 100ms, criterion C         Operating temperature       0°C to +70°C       95% dips 5000ms, criterion C         Cooling       Convection cooling         Power derating       Refer to Power Derating Curve       — Safety —         Storage temperature       -40°C to +75°C       Approvals       60950-1 compliant         Relative humidity       10% to 90% RH, non-condensing       60601-1 compliant	Over Load / Short	Auto-recovery	Voltage dips	EN61000-4-11
Operating temperature 0°C to +70°C 95% dips 5000ms, criterion C  Cooling Convection cooling  Power derating Refer to Power Derating Curve Storage temperature -40°C to +75°C Approvals 60950-1 compliant  Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant				
Cooling     Convection cooling       Power derating     Refer to Power Derating Curve     - Safety -       Storage temperature     -40°C to +75°C     Approvals     60950-1 compliant       Relative humidity     10% to 90% RH, non-condensing     60601-1 compliant	— Environmental —			
Power derating Refer to Power Derating Curve — Safety — Storage temperature -40°C to +75°C Approvals 60950-1 compliant Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Operating temperature	0°C to +70°C		95% dips 5000ms, criterion C
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Relative humidity 10% to 90% RH, non-condensing 60601-1 compliant	Power derating	Refer to Power Derating Curve	— Safety —	
	Storage temperature	-40°C to +75°C	Approvals	60950-1 compliant
Operating altitude 0 to 2000m CE Mark	Relative humidity	10% to 90% RH, non-condensing		60601-1 compliant
-1 V	Operating altitude	0 to 2000m		CE Mark

#### **Notes**

- All specifications without special notices are defined at nominal line, rated load and 25°C.

- Initial output voltage is set at 60% rated load and 115VAC input.

  For SNP-Y090, max combination load of +5V and +12V is 75W/continuous and 130W/peak.

  For SNP-Y09E, max combination load for all outputs is 85W/continuous and 16CFM forced air is required for any output to exceed rated load. Peak load of +3.3V and +5V can only be used alternatively.

  Peak load can last 2 sec for SNP-Y09E and 8 sec for other models, with 10% duty cycle and average power < rated load. Inrush current is defined at 25°C cold start and EMI capacitors are excluded.

- Over voltage protection mode is defined at 60% rated load.
- Ripple & Noise is defined with 15MHz BWL oscilloscope and 1X probe with 0.47uF output capacitor for each output.
- All specifications subject to change without notice.

  This datasheet is only for model selection. Please contact sales@skynetpower.com.tw for formal specificaion.

Product Manager: Clark Technical Supervisor: NA

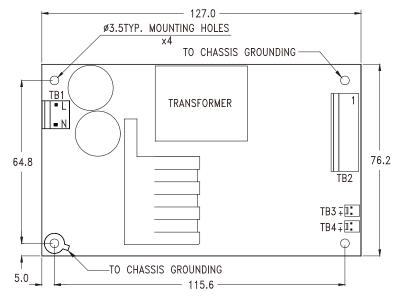


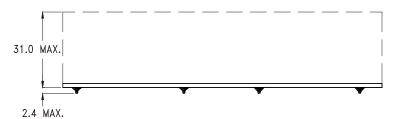
# **SNP-Y09 Series**

Rated 90W Peak 135W

### **Output Pin**

PIN NO.	1	2	3	4	5	6	7	8	9	10
SNP-Y090	+5V	+5V	+5V	GND	GND	GND	+12V	+12V	-12V	-5V
SNP-Y09E	+3.3V	+3.3V	GND	GND	GND	GND	+5V	+5V	+12V	-12V
SNP-Y096	GND	GND	GND	GND	+5V	+5V	+5V	+5V		
SNP-Y097	+12V	+12V	+12V	GND	GND	GND	GND	+5V		
SNP-Y098	+15V	+15V	+15V	GND	GND	GND	GND	+5V		
SNP-Y099	+24V	+24V	+24V	GND	GND	GND	GND	+5V		
SNP-Y09T	+48V	+48V	+48V	GND	GND	GND	GND	NC		





#### Connector type\*

TB1 AC input
 TB2 DC output
 Molex 5277-02A
 Molex 5273-10A

(SNP-Y090/E) : Molex 5273-08A

(other models)
TB3 LED : Molex 5045-02A

(SNP-Y096/7/8/9/T)

• TB4 FAN : Molex 5045-02A

(SNP-Y097/8/9/T)

• TB5 Remote sense : Molex 5045-02A

(SNP-Y096)

#### **Dimensions\***

• WxLxH : 3" x 5" x 1.18"~1.3"

76.2 x 127 x 30~33 (mm)

## **Packing**

• Net weight : 245g approx./unit

• Carton size (mm) : 397(L) x 339(W) x 327(H)

Quantity
Gross weight
48 units / carton
14.2kg approx./carton

#### **Notes**

 For all connectors, equivalent types from other vendors could be used.

 Fan output is 24V for SNP-Y099, and +12V for other models.

 Max fan output current is 0.1A in SNP-Y098, 0.2A in SNP-Y099, and 0.25A in other models.

 Product height is 31mm for SNP-Y097/Y090, 33mm for SNP-Y09E, and 30mm for other models.

• Dimensions in left graph are shown in mm.

• Tolerance for dimension is ±0.4mm.

This product is RoHS compliant.

### **Power Derating Curve**

