

SPECIFICATION

For

SWITCHING POWER SUPPLY

For

Engineering Sample Approval

M/N : SNP-F50T

Standard Product

Reviewed by Mechanical Engineer	<i>Handwritten signature and date: 5-9-23</i>					
Reviewed by Circuit Design Engineer						
Reviewed by Test Engineer	<i>Handwritten signature and date: 5/13</i>					
Reviewed by Circuit Engineer						
Reviewed by Design Supervisor						
Reviewed by Product Manager	<i>Handwritten signature and date: 5-10-23</i>					
Reviewed by Project Manager						
Typed by Project Secretary						
SKYNET ELECTRONIC		LAST REV. NO.				

1.0 INTRODUCTIONS

SNP-F50T is an U-shape 500W power supply with remote sense function. By forced air cooling, the max. output can reach to 750W, It can also deliver 1000W for 5sec without shutdown. It is designed for ITE and medical BF application.

2.0 INPUT SPECIFICATIONS

2.1 Input voltage

The range of input voltage is from 90VAC to 264VAC. Nominal line 115VAC/230VAC.

2.2 Input frequency

The range of input frequency is from 47Hz to 63Hz.

2.3 Input current

The maximum input current is 10A at 115VAC or 5A at 230VAC.

2.4 Inrush current

The inrush current will not exceed 15A at 115VAC input or 30A at 230VAC input, cold start at 25°C. (EMI capacitors excluded)

3.0 OUTPUT SPECIFICATIONS

3.1 Load range

output	min. load	rated load	max. load	peak load	voltage range
+48V	0A	10.4A	15.6A	20.8 A	47V to 49V

3.1.1 Factory adjustment

At factory, the output in 60% rated load and nominal line condition, the +48V output is set to between 47.76V and 48.24V.

At peak load and nominal line, the output can last for 5sec without shut down.

3.1.2 Total output power

Can run up to rated load with convection cooling ; to max load with 18CFM forced air cooling.

3.2 Ripple and noise

The peak to peak ripple and noise for each output is less than 1%Vo at rated load and nominal line. Measuring is done by 15MHz band width limited oscilloscope and terminated output with a 0.47uF capacitor.

3.3 Line regulation

The line regulation for +48V output is less than +/- 0.5% while measuring at rated load and + -10% of nominal line input voltage changing

3.4 Load regulation

The load regulation for +48V output is less than +/- 1% measuring are done by changing the measured output load + -40% from 60% rated load and nominal line

3.5 Capability for capacitive load

The output can handle capacitive load at start-up up to 50000uF.

3.6 Capability for inductive load

The output can takes care any reverse inductive current generated by inductive load.

3.7 Remote sense

The +48V output has remote sense input which can compensates for 0.5V line drop min.

3.8 Fan off control

The cooling fan output (TB6) will turn-off to reduce the noise when the output power is lower than 30%±10% of max load.

4.0 GENERAL FEATURES

4.1 Efficiency

The efficiency is typical 90% while measuring at nominal line and rated load.

4.2 Hold up time

The hold up time is 12mS typical at 115VAC input and rated load, which is measured from the end of the last charging pulse to when the main output drops down to 95% output voltage.

4.3 Protection

4.3.1 Over current protection

Trip point :110% to 130% Maximum load , at nominal line.

Protection mode : Auto recovery

4.3.2 Short protection

Protection mode : Auto recovery

4.3.3 Over voltage protection

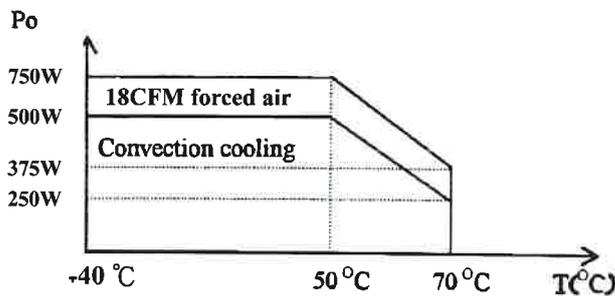
+48V trip point :+55V to 62V.

Protection mode : Latch-off.

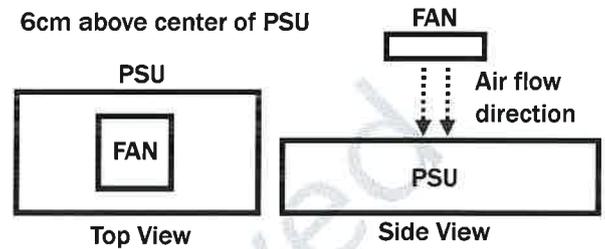
5.0 ENVIRONMENT SPECIFICATIONS

5.1 Operating temperature

-40°C to 70°C, -40°C to 50°C no derating, above 50°C, derate at 2.5% per degree from 50°C to 70°C.



Max Load Fan location



5.2 Storage temperature

-40°C to 85°C

5.3 Operating humidity

5% to 95% RH, non-condensing

5.4 Altitude

0 to 5000m

5.5 MTBF

>200Khrs(based on MIL-HDBK-217F, rated load, 50°C)

6.0 INTERNATIONAL STANDARDS

6.1 Safety standards (Label voltage: 100Vac to 240Vac)

UL/EN/IEC62368-1

ANSI/AMMI/CSA/EN 60601-1

6.2 EMI standards

FCC level is "A" but "B" with Delta EMI Filter (10GEEG3Q)

EN55032, level is "A" but "B" with Delta EMI Filter (10GEEG3Q)

EN55011, level is "A" but "B" with Delta EMI Filter (10GEEG3Q)

EN 61000-3-2 class "A"

EN 61000-3-3

6.3 EMS standards

EN61000-4-2 8kV/contact discharge, 15kV/air discharge Criterion A

EN61000-4-3 10V/M with 80% AM Criterion A

EN61000-4-4 2kV Criterion A

EN61000-4-5 1kV/Line-Line, 2kV/Line-Earth Criterion A

EN61000-4-6 10V with 80% AM Criterion A

EN61000-4-8 30A/m Criterion A

EN61000-4-11 30% dips 500ms, Criterion A

60% dips 200ms, Criterion B

100% dips 10ms, Criterion A

100% dips 20ms, Criterion B

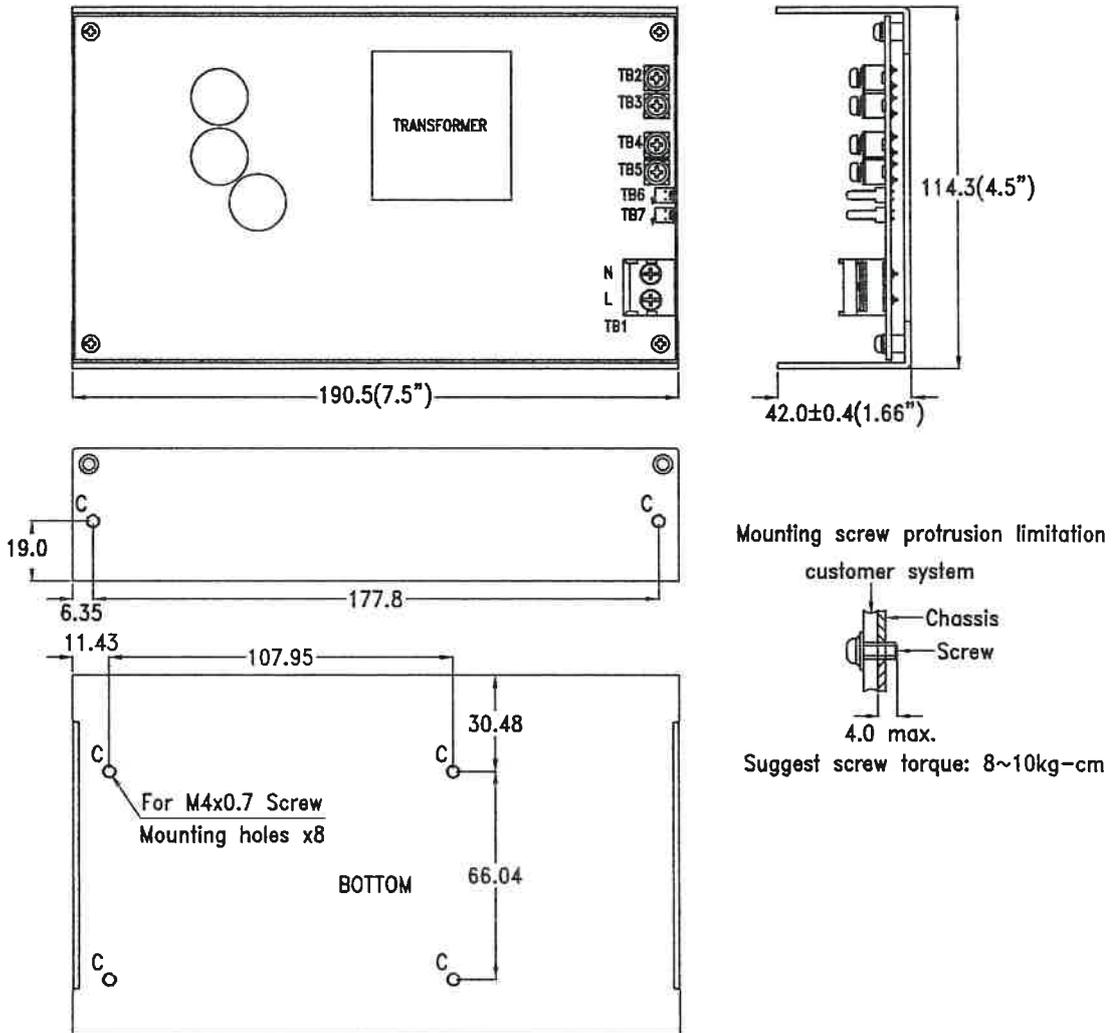
100% dips 5000ms, Criterion B

7.0 Mechanical specification

7.1 Dimensions

Dimensions below are shown in mm.

Tolerance specified is +0.4mm between mounting holes, +0.8mm other dimensions.



7.2 Connectors

- TB1 -- AC Input : Terminal Blocks , pitch of 8.25 mm
- TB2~5 -- DC Output : Terminal Blocks
- TB6 -- For +12V fan use only : Molex 5045-02A or equivalent
- TB7 -- Remote Sense : Molex 5045-02A or equivalent

7.3 DC output pin assignment

- | | | | | | |
|-----------|--------|-----|-------------|-----|-------------|
| TB2 & TB3 | : GND | TB6 | : Pin 1 GND | TB7 | : Pin 1 -RS |
| TB4 & TB5 | : +48V | | : Pin 2 FAN | | : Pin 2 +RS |

7.4 Packing

- Net weight : 1735g approx. / unit
- Carton size(mm) : 362 (L) x 343 (W) x 258 (H)
- Quantity : 10 units / carton
- Gross weight : 16.0kg approx. / carton