

**SPECIFICATION**

and

**PERFORMANCE**

for

SWITCHING POWER SUPPLY

**M/N : SNP-CK69**

Reviewed by Project Manager	鍾煒煒 4-12-06	鍾煒煒 8-28-06	鍾煒煒 10-23-07	鍾煒煒 2-6-10	鍾煒煒 11-1-11	
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SKYNET ELECTRONIC				LAST REV. NO.		

## 1.0 INTRODUCTIONS

The Skynet model SNP-CK69 is made for IT Market, 60 Watts +24V single output switch mode power supply with universal AC input.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is from 90VAC to 264VAC, nominal line is 115VAC/230VAC. (Label 100 ~ 240VAC)

### 2.2 Input Frequency

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

### 2.3 Input Current

The maximum input current is 2A at 115VAC or 1A at 230VAC.

### 2.4 Inrush Current

The inrush current will not exceed 30A at 115VAC input or 60A at 230VAC input cold start, 25°C.

✓ 2.5 Green power No load input power is less than 0.5W at 115VAC/230VAC input voltage range.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

Output	Min. load	Rated load	voltage accuracy
+24V	0A	2.5A	+23.28V to +24.72V

At factory, the +24V output is set between +23.98V to +24.02V at 60% rated load and nominal line input, and the output should be checked within voltage accuracy range.

### 3.2 Ripple and noise

The peak to peak ripple and noise for each output is less than 1.0% of each output voltage at rated load, nominal line. Measuring is done by 15MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF capacitor.

### 3.3 Line regulation

The output line regulation, for all outputs are 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 +24V are less than + -1%, which are measured by changing the output load + -40% from 60% rated load, and nominal line input.

**4.0 GENERAL FEATURES**

**4.1 Efficiency**

The efficiency is 87% typ. while measuring at nominal line and rated load.

**4.2 Hold up time**

The hold up time is 20ms typ. 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 voltage protection**

The built-in crowbar circuit will shut down the outputs to avoid damaging the external circuits. The trip point of over voltage protection is around +26.2V to +31.0V. To recover from over voltage protection, cycle the AC line OFF and ON is necessary.

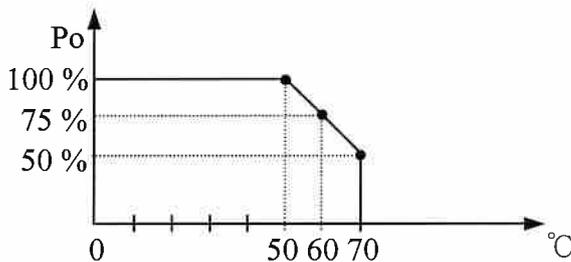
**4.3.2 Short circuit and over load protection**

The power supply will generate a hiccup mode to protect itself against short circuit or over load conditions, and will automatically return to normal after fault conditions are removed.

**5.0 ENVIRONMENT SPECIFICATIONS**

**5.1 Operating temperature**

0°C to 70°C (>50°C with derating as below.)



**5.2 Storage temperature**

-40°C to +75°C

**5.3 Operating humidity**

10% to 90% Non-Condensing.

**5.4 Altitude**

Will operate properly at any altitude between 0 to 6000ft.

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following regulations :

UL 60950-1

CSA 22.2 NO.60950-1

EN 60950-1

### 6.2 EMI standards

Designed to meet the following limits :

FCC docket 20780 curve "B"

EN55022 class "B"

### 6.3 EMS standards

Designed to meet the following limits :

EN61000-4-2	4KV contact, 8KV air discharge	Criterion A
EN61000-4-3	10V/M with 80% AM	Criterion A
EN61000-4-4	4KV	Criterion A
EN61000-4-5	Line to Line 1KV ; Line to ground 2KV.	Criterion A
EN61000-4-6	10V with 80% AM	Criterion A
EN61000-4-8	3A/M	Criterion A
EN61000-4-11	30 % dips 10 ms, Criterion A	
	60 % dips 100 ms, Criterion C	
	95 % dips 5000 ms, Criterion C	

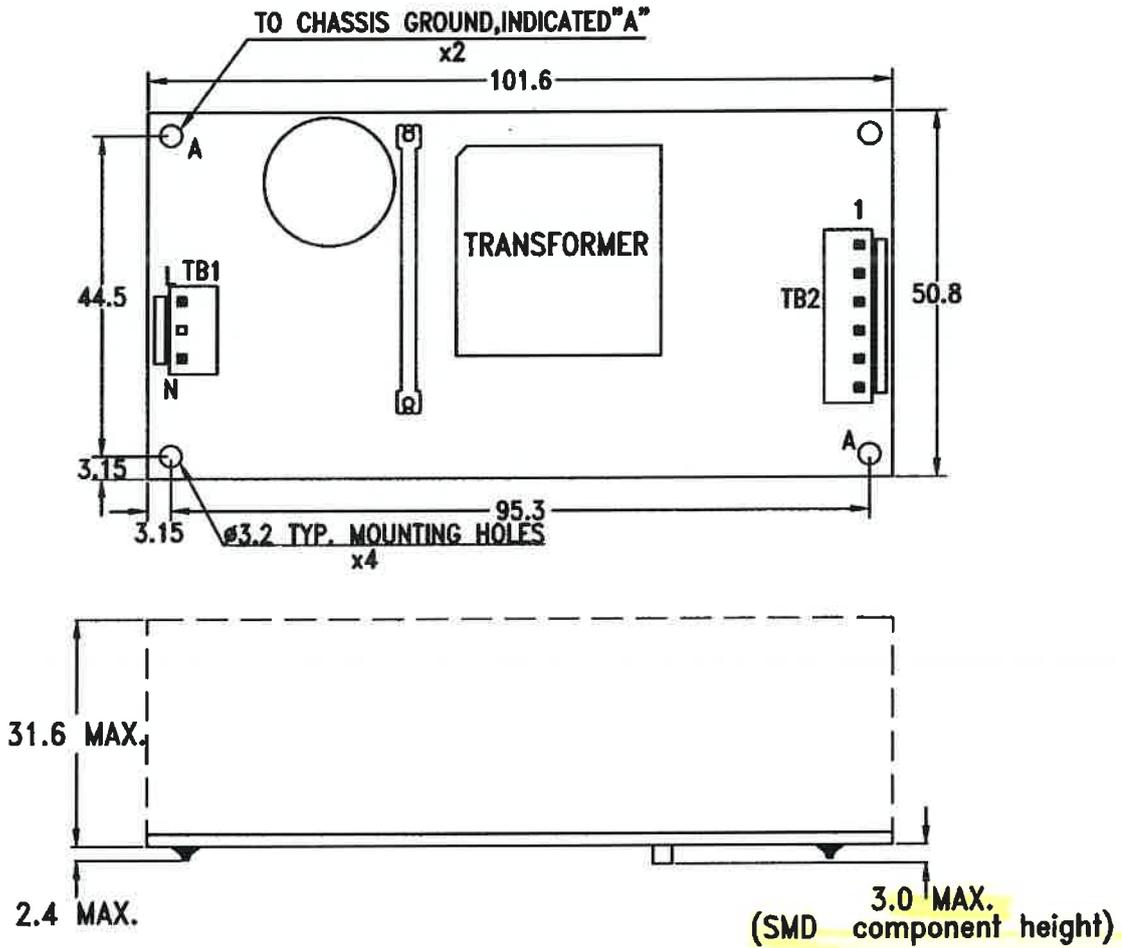
### 6.4 Energy Saving Standards

Designed to meet the following standard :

CEC ( California Energy Commission ) Efficiency Level V

Energy Star Version 2.0 Level V

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions shown in mm as above. Tolerance specified is + -0.4mm.

7.2 Connectors

TB1--AC input : JST B2P3-VH or equivalent.

TB2--DC output : JST B6P-VH or equivalent.

7.3 DC output pin assignment

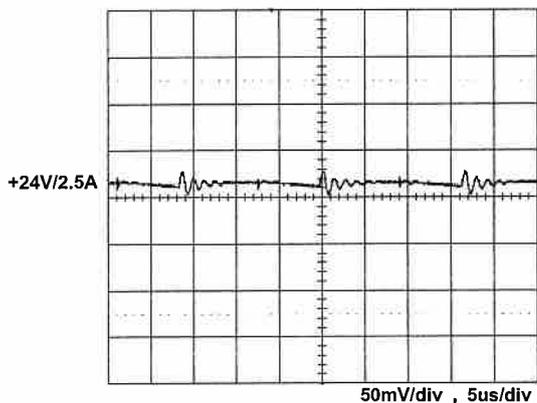
Pin 1.	+24V	4.	GND
2.	+24V	5.	GND
3.	+24V	6.	GND

7.4 Packing

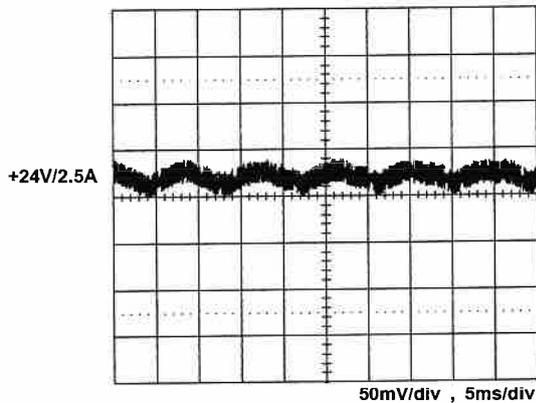
Net weight	: 135 g approx. / unit
Carton size (mm)	: 382 (L) x 374 (W) x 277 (H)
Quantity	: 80 units / carton
Gross weight	: 13.3 kg approx. / carton

8.0 PERFORMANCE (input voltage is 115VAC, unless others specified)

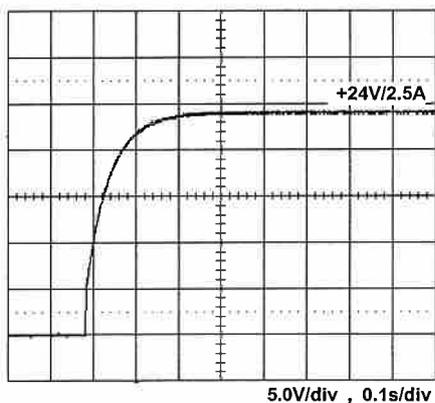
8.1 Switching frequency ripple



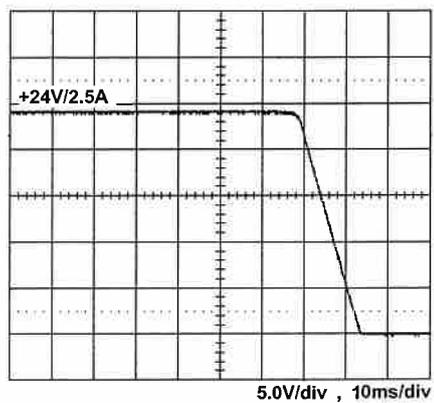
8.2 Line frequency ripple



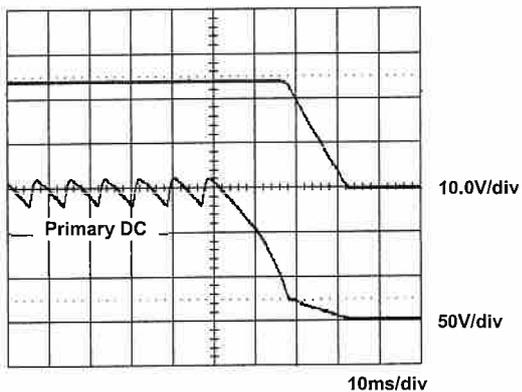
8.3 Output turn on wave form



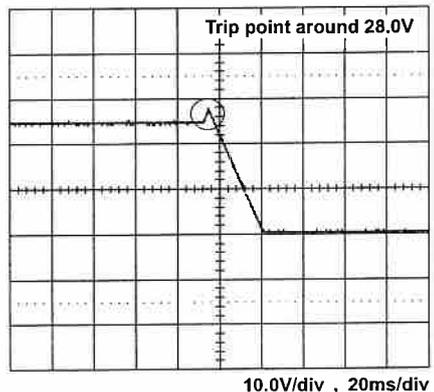
8.4 Output turn off wave form



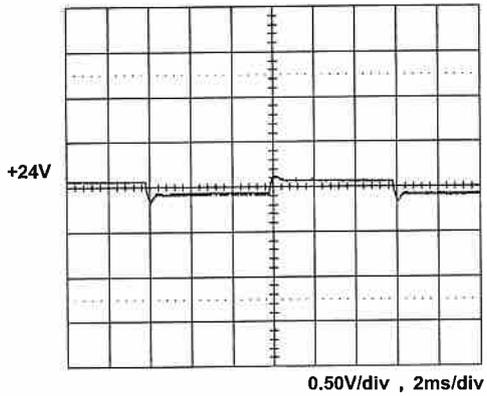
8.5 Hold-up time



8.6 Over voltage protection

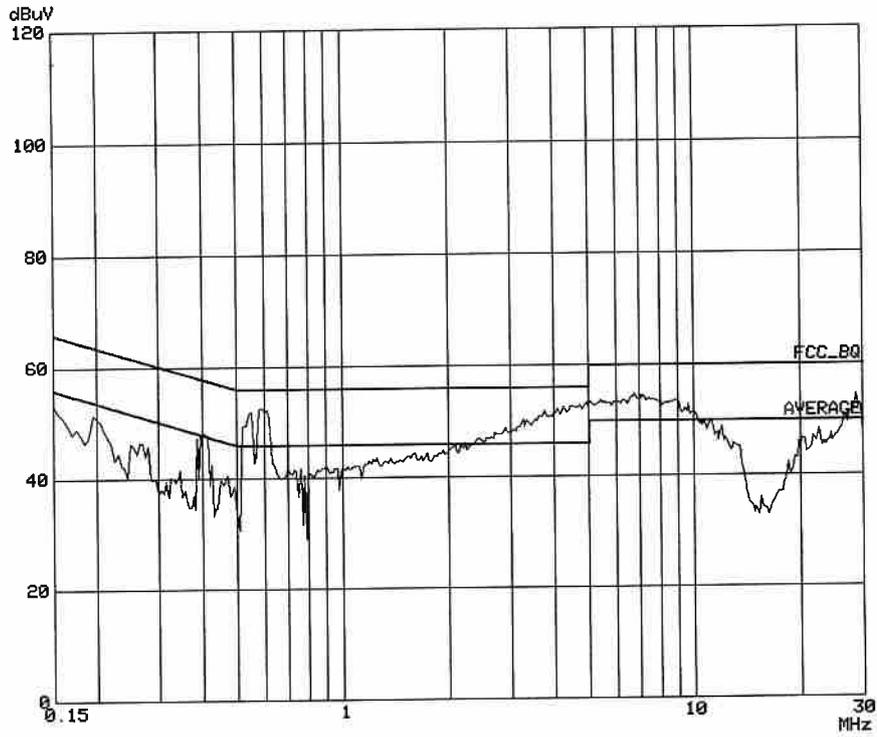


8.7 +24V step response



+24V step from 0.5A to 2.5A

8.8 FCC B performance



8.9 EN55022 class "B"

