

**2.5" x 4.5" x 1.18"**

## General Specifications:

Input voltage ..... 90VAC to 264VAC  
 Input frequency..... 47Hz to 63Hz  
 Inrush current ..... < 30A at 115VAC  
 (cold start at 25°C) or < 60A at 230VAC  
 Efficiency ..... 81%~87% depends on models  
 at rated load and 115VAC  
 Hold up time ..... 16ms typical  
 at rated load and 115VAC  
 Over load protection ..... auto recovery  
 Short circuit protection ..... auto recovery

## Features:

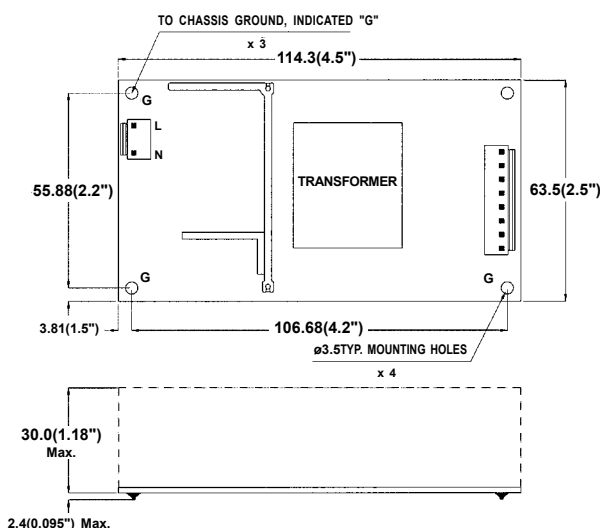
- Only 1.18 inch height
- With ITE & Medical safety
- Efficiency between 81% to 87%
- Operation from 0°C to 70°C by convection

## Applications:

- For dental, laboratory products, pumps, monitors, sleep apnea devices and many other uses.

Over voltage protection ..... latch off  
 Operating temperature (open frame type) ..... 0°C to 70°C  
 derating: 2.5% / °C > 50°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. Size: 2.5" x 4.5" x 1.18"
2. Mounting Hole: 55.88 x 106.68 (mm)
3. Connectors:  
 AC input : JST B2P3-VH or equivalent  
 DC output : JST B6P-VH or B8P-VH or equivalent
4. Output Pin assignment:

PIN NO.	1	2	3	4	5	6	7	8
SNP-Z081	+12V	+12V	GND	GND	GND	+5V	+5V	-12V
SNP-Z083	+12V	+12V	GND	GND	GND	+5V	+5V	NC
SNP-Z08F	+24V	+24V	GND	GND	GND	+5V	+5V	+12V
SNP-Z086	GND	GND	GND	GND	+5V	+5V	+5V	+5V
SNP-Z087	GND	GND	GND	+12V	+12V	+12V	+5V	
SNP-Z087-1	GND	GND	GND	+12V	+12V	+12V	NC	
SNP-Z089	GND	GND	GND	+24V	+24V	+24V	+5V	
SNP-Z089-1	GND	GND	GND	+24V	+24V	+24V	NC	
SNP-Z08T	GND	GND	GND	+48V	+48V	+48V	NC	

5. Packing:  
 Net weight: 235 g approx. / unit  
 Gross weight: 16.5 kg approx. / carton, 60 units / carton  
 Carton size (mm): 447 (L) x 300 (W) x 301 (H)

## Output Specifications:

MODEL NO.	OUTPUT RAIL	LOAD				VOLTAGE ACCURACY	RIPPLE NOISE	LINE REG.	LOAD REG.	EFFICIENCY TYPICAL
		MIN.	RATED	MAX.	PEAK					
SNP-Z081	+5V	0A	6A	8A	15A	+4.9V~+5.1V	1%	±1%	±3%	84%
	+12V	0A	4A	6A	10A	+11.4V~+12.6V	1%	±1%	±3%	
	-12V	0A	0.5A			-11.4V~-12.6V	1%	±1%	±5%	
SNP-Z083	+5V	0A	6A	8A	15A	+4.9V~+5.1V	1%	±1%	±3%	84%
	+12V	0A	4A	6A	10A	+11.4V~+12.6V	1%	±1%	±3%	
SNP-Z08F	+5V	0A	6A	8A	15A	+4.9V~+5.1V	1%	±1%	±3%	85%
	+24V	0A	2A	3A	5A	+22.8V~+25.2V	1%	±1%	±3%	
	+12V	0A	0.5A			+11.4V~+12.6V	1%	±1%	±5%	
SNP-Z086	+5V	0A	15A			+4.95V~+5.05V	1%	±1%	±1%	81%
SNP-Z087	+12V	0A	6.5A		11A	+11.88V~+12.12V	1%	±1%	±1%	82%
	+5V	0A	0.5A			+4.75V~+5.25V	1%	±1%	±1%	
SNP-Z087-1	+12V	0A	7A		11A	+11.88V~+12.12V	1%	±1%	±1%	83%
SNP-Z089	+24V	0A	3.6A		5.6A	+23.75V~+24.24V	1%	±1%	±1%	85%
	+5V	0A	0.5A			+4.75V~+5.25V	1%	±1%	±1%	
SNP-Z089-1	+24V	0A	3.75A		5.6A	+23.75V~+24.24V	1%	±1%	±1%	86%
SNP-Z08T	+48V	0A	1.88A		2.8A	+47.6V~+48.4V	1%	±1%	±1%	87%

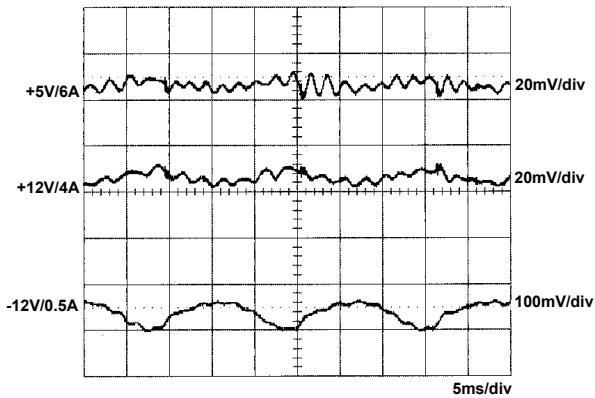
### Note:

- At peak load, the output can last for 8 seconds without shut down.
- 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.
- Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
- Load regulation is defined by changing ±40% of measured output load from 60% rated load at another output set to 60% rated load.
- 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.
- 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 line.
- The efficiency is measured at nominal line and rated load.
- Model Selection:  
SNP-Z08x is for both of ITE application and medical application.  
SNP-Z086 is for medical use only.

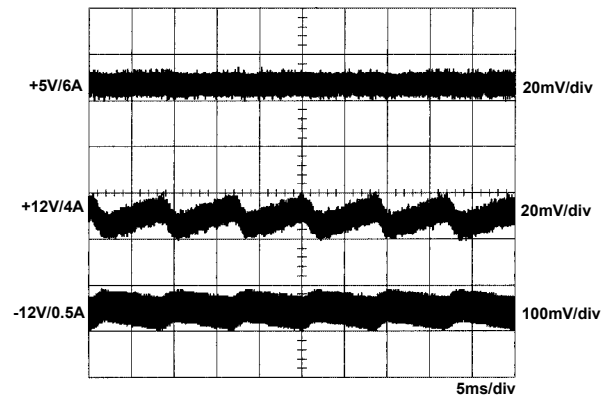
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## Performance for SNP-Z081:

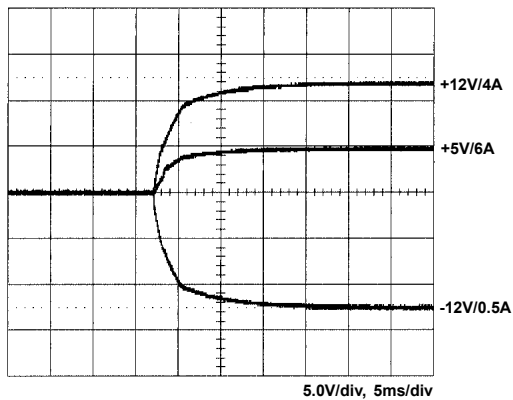
### 1. Switching frequency ripple



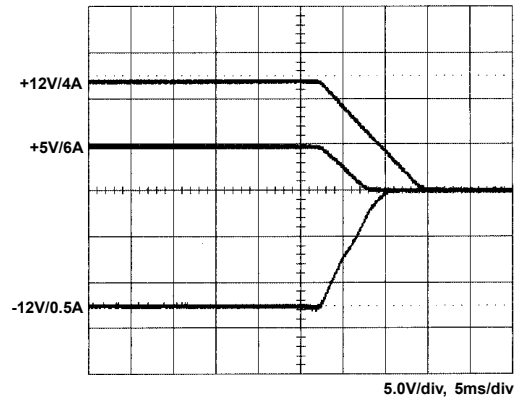
### 2. Line frequency ripple



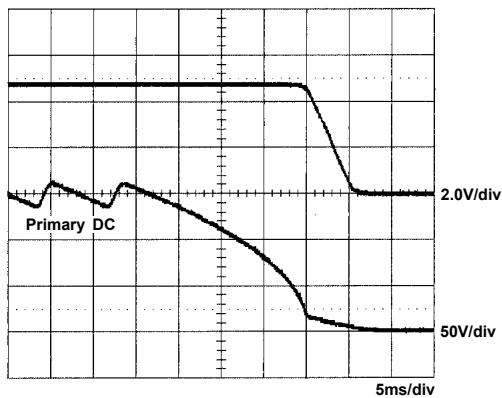
### 3. Output turn on wave form



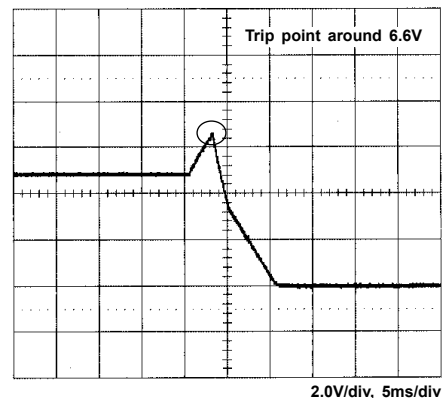
### 4. Output turn off wave form



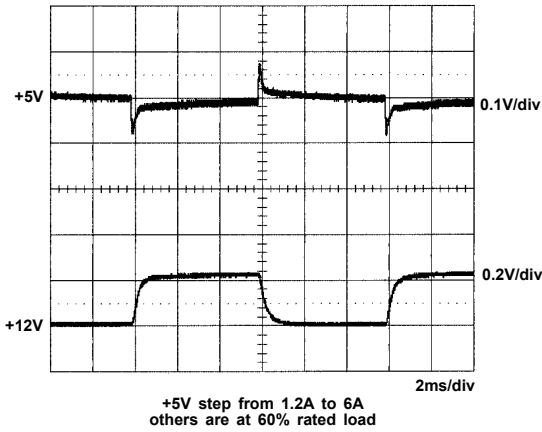
### 5. Hold-up time



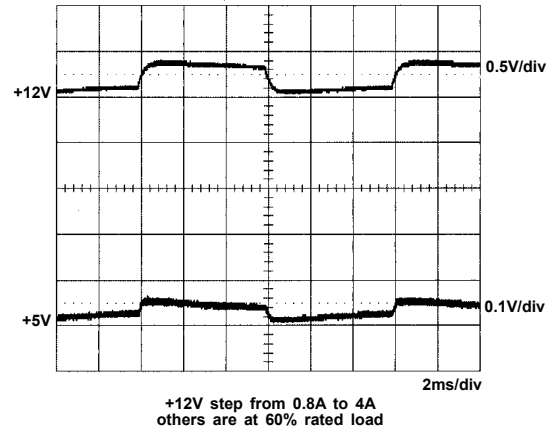
### 6. Over voltage protection



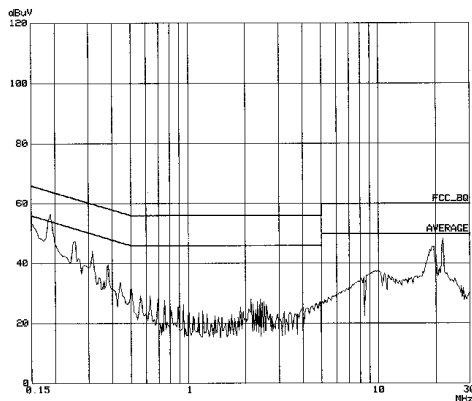
## 7. +5V step response



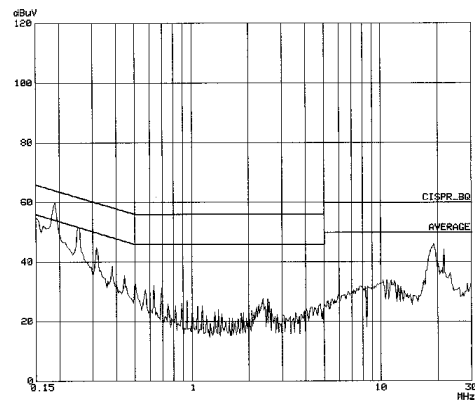
## 8. +12V step response



## 9. FCC B



## 10. EN 55022 B



## 11. Power derating curve

