



SWITCHING POWER SUPPLY SPECIFICATION

# CP-01020

**CLAYPOWER**  
C O M P A N Y

REV.00

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## 1. Input Characteristics:

1.1 Input Voltage Range --- 90~264Vac, full range with active power factor 90% min

1.2 Input Frequency Range --- 47Hz to 63Hz.

1.3 Input Ac Current ( Max ) --- 4.0A Max, full load.

1.4 Inrush Current --- At 132Vac / 264Vac, full load condition, no damage occur, input fuse shall not blow.

1.5 Efficiency --- 63% min, at nominal line input full load.

1.6 Input Leakage Current --- Leakage current from line to ground will be less 3.5mA rms, measurement will be made at 240Vac/60Hz.

## 2. Output Characteristics:

### 2.1 Static Output Characteristics.

	Output Voltage	Load Range		Regulation		Ripple Max mV P-P	Ripple & Noise Max. mV P-P
		Min.	Max.	Min.	Max.		
1.	+3.3 V	0.3 A	20.0 A	- 5 %	+ 5 %	50 mV	100 mV
2.	+5.0 V	2.0 A	20.0 A	- 5 %	+ 5 %	50 mV	100 mV
3.	+12.0 V	0.5 A	8.0 A	- 5 %	+ 5 %	100 mV	150 mV
4.	-5.0 V	0.0 A	0.3 A	- 10 %	+ 10 %	150 mV	200 mV
5.	-12.0 V	0.0 A	1.0 A	- 10 %	+ 10 %	150 mV	200 mV
6.	SB +5.0 V	0.0 A	2.0 A	- 5 %	+ 5 %	100 mV	100 mV

### Note:

1. Noise Test --- Noise bandwidth is from Dc to 20MHz.
2. Ripple frequencies greater than 1 MHz shall be attenuated by the measurement system.
3. Add 0.1uF / 10uF capacitor at output connector terminals for ripple & noise measurements.
4. Combined total current from +3.3V and +5V rails shall not exceed 22A.
5. The total output power shall not exceed 200W.

### 2.2 Dynamic Output Characteristics:

2.2.1 Initial Delay Time --- NONE.

2.2.2 Rise Time --- 50 mS max, at nominal line full load.

**2.2.3 Turn-on Delay Time --- 600mS max, at nominal line full load.**

**2.2.4 Hold-up Time --- 16mS min, for + 5V output at nominal line full load.**

**2.2.5 Transient Overshoot --- 10% Max. of delay state after load change of 25% within the range of 50% to 100% of full load.**

**2.2.6 Temperature Coefficient --- 0.03% per °C max.**

### **3. Protections:**

**3.1 Over Voltage Protection --- Standard on +3.3V output set at 3.7Vdc – 4.5Vdc.  
+5.0V output set at 5.7Vdc – 6.5Vdc.  
+12.0V output set at 13.5Vdc – 14.5Vdc.**

**3.2 Short Circuit Protection --- A short circuit placed between DC return and output shall cause no damage and the power supply shall shutdown.**

**3.3 Over Power Protection --- The power supply can use electronic circuit to limit the output. Power against excessing +120% - 170% of full load, or protected against excessive power delivery due to short circuit of any output or over total power.**

**3.4 No load Operation --- No parts damaged on power supply.**

### **4. Dielectric Withstand Voltage:**

**4.1 Primary to Secondary ----- 1500Vac for 1 minute, or 2200Vdc for 3 sec.**

**4.2 Primary to Safety Ground --- 1500Vac for 1 minute, or 2200Vdc for 3 sec.**

**4.3 Insulation Resistance ----- Primary to safety ground - 500Vdc, 100M ohms min.**

### **5. Conducted EMI: Internal Filter Can Meet.**

**5.1 FCC Requirement --- Part15, SUB-Part J, Computing Devices “ Class A “ Limits.**

**5.2 VDE Requirement --- Class “ A “ ( General Operating Permit ) Requirements Of VFG 234/1991.**

**5.3 CISPR Requirement --- Class “ A “ Requirements Of CLSPR 22.**

**5.4 Harmonic Requirement --- IEC10000-3-2 & IEC10000-3-3 Class “ D “.**

### **6. Product Safety: This Power Supply Is Designed Can Meet The Following Spec.**

**6.1 UL/CUL ----- UL60950**

6.2 TUV ----- EN 60950

## 7. Environment:

7.1 Operation Temperature ----- Air temperature 0 °C to 50 °C.

7.2 Operation Relative Humidity ----- 20% to 90%.

7.3 Storage Temperature ----- Air temperature -20 °C to 60 °C.

7.4 Storage Relative Humidity ----- 5% to 95%.

7.5 Altitude ----- Operate properly at any altitude between 0 to 100,000 feet, storage 40,000 feet.

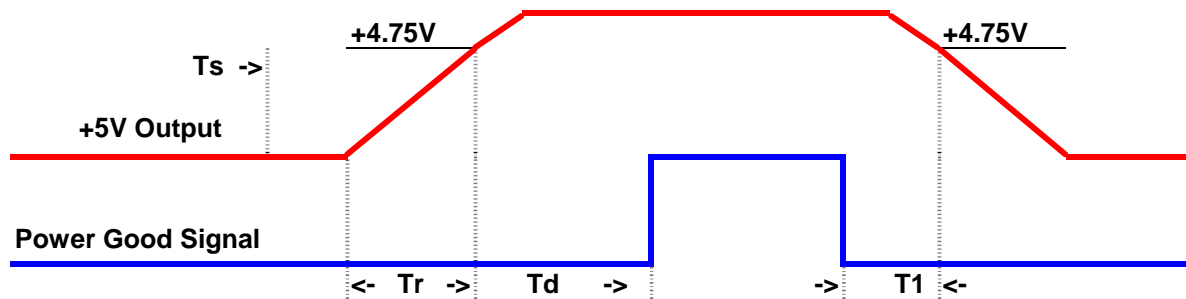
7.6 Vibration ----- 0.38mm. 5-55-5Hz, 1 minutes per cycle; 30 minutes for each axis ( X,Y,Z ).

## 8. Burn-In

8.1 Burn-In ----- At 45 °C, max. load, 4 hours.

9. Mean Time Between Failure ----- 100 KHrs minimum at 75% load for 25 °C ambient temperature.

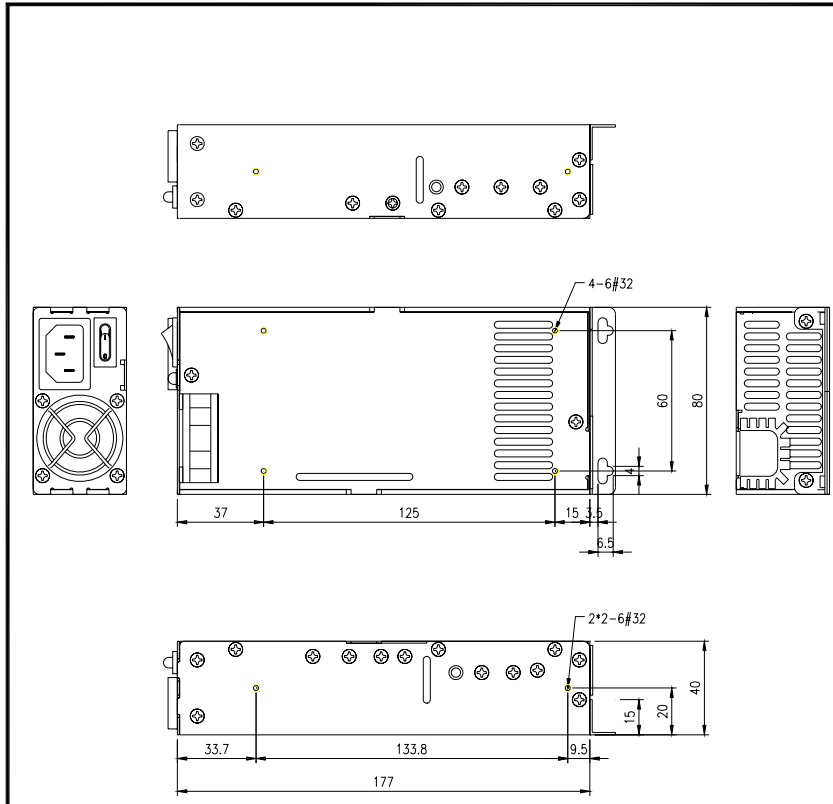
## 10. Power-Good Signal:



Note:  $Tr \leq 100 \text{ ms}$ ,  $T1 \geq 1 \text{ ms}$ ,  $Td = 100 - 500 \text{ ms}$ .

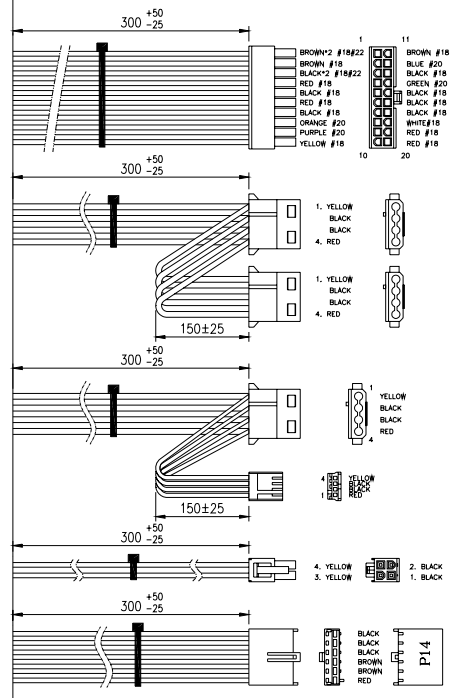
## 11. Dimension

11.1 W x H x D ----- 80.0 x 40.0 x 177.0( mm )



REVISIONS

NO	DESCRIPTION	DATE	APPROVED
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CLAY POWER COMPANY

APPROVED	DATE	TITLE		
		CP-01020		
CHECKED	DATE	DRAWING NO.	PART NO.	REV.
				A
DESIGNED	DATE	SCALE: MM(INCHES)	TOLERANCES:	MODEL NO.
Yuba		1:2	XX ±.10 XXX ±.010	
			SHEET	1 of 1

FINISH:		MATERIAL:	
採購	生產	品質	