

Dual +12V/-12V @ 400mA Regulated Linear Power Supply with AC input

The project presented here is a dual output linear power supply. This power supply provides low ripple low noise DC regulated output. It is a very useful tool to power Audio, Video, OPAMP-based circuits, and projects. The circuit provides regulated +/-12V DC output @ 400mA + 400mA. The project supports AC input supply 230V or 115V. On-board jumpers are provided for AC230V or AC115V selection. Besides regulated output, the board also has provisions to output the unregulated supply using CN2.

Connector CN1 : 230V/115V AC Input, Jumper J2 : 230V Selection, Jumper J1, J3 : 115V Selection, Transformer-Step Down T1 : 230/115V AC IN, 12VAC-0V-12VAC 0.83A , Bridge Rectifier BR1 : Bridge Rectifier, Capacitor C2, C5 : DC Filter Capacitors, Connector CN2 : Unregulated DC Output, Regulator U1 : +12V Regulator, Regulator U2 : -12V Regulator, C1,C3,C4, C6 DC Filter Capacitors, LED D1 : +12V LED, LED D2 : -12V LED, Connector CN3 and CN4 : +/-12V Regulated Output, Resistor R1, R2 : Current Limiting Resistors for LEDs.

Note1: Power supply supports 230V AC or 115V AC input, remove input power cable while changing Jumper selection.

- **For 230V AC Input Close Jumper J2 Jumper J1 and J3 Open,**
- **For 115V AC Input Close Jumper J1 and J3 Open Jumper J2**

Note 2: This power supply contains hazardous voltage at input, PCB must be installed in an enclosure which prevents accidental contact.

Use Plastic screws to mount the power supply

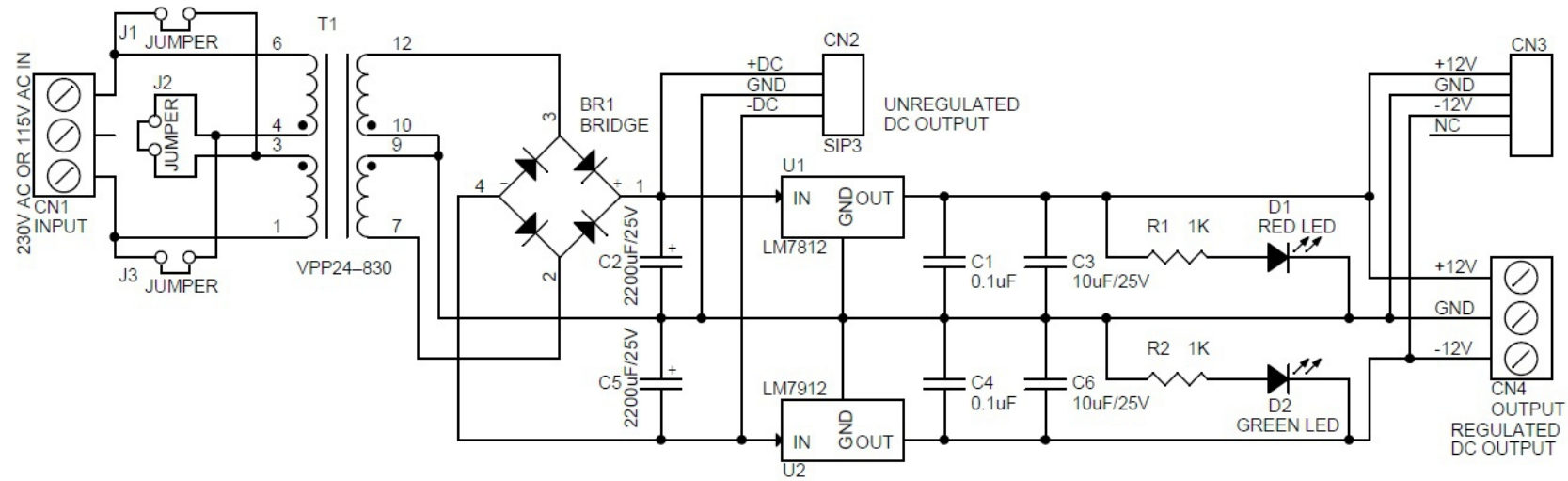
Note 3: Power supply also can be use as Dual Regulated +/-15V DC Output, Replace U1 LM7815, U2 Lm7915

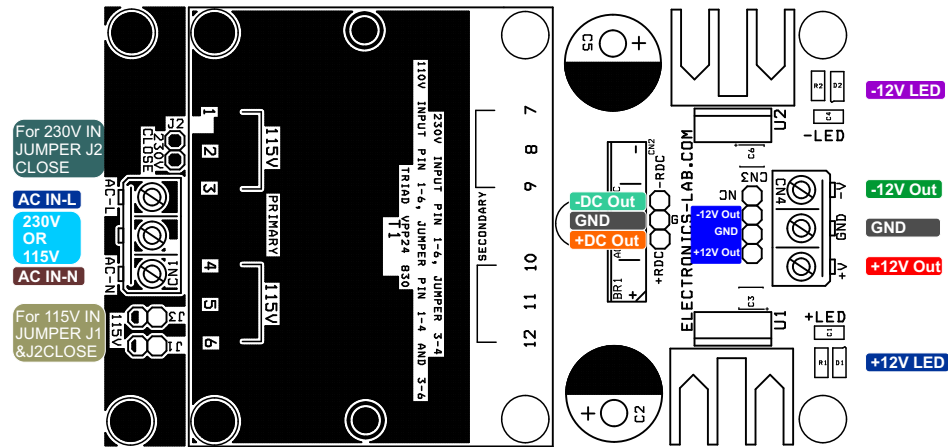
Note 4: Heatsink is must for regulators U1 and U2 @ full load, heatsink should be mounted with plastic screws and should not touch ground plane of the PCB.

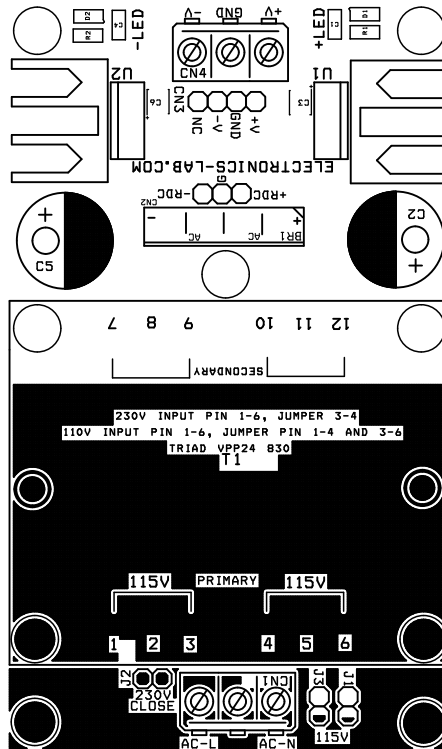
Features

- Input 230V or 115V AC (Use Jumpers to Select 230V or 115V AC)
- Output +/-12V DC (Dual Output)
- Unregulated Output Approx. +/-17V (CN2)
- Output Ripple Approx. 5mV
- Maximum Load Current 800mA (+12V@400mA, -12V@400mA)
- 2 X Power LEDs, for 12V and -12V
- Screw Terminal for AC Input
- Screw Terminal for Regulated DC Output
- 3 Pin Male Header Provides Unregulated DC Output
- 4 Pin Male Header for Regulated DC Output
- PCB Dimensions 99.06MM X 58.74MM

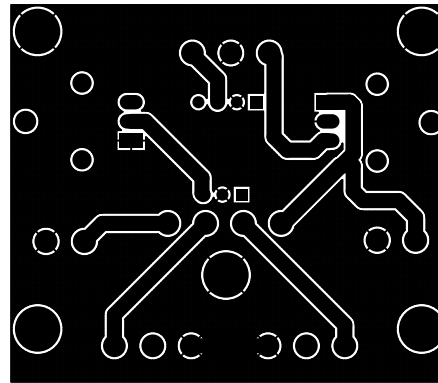




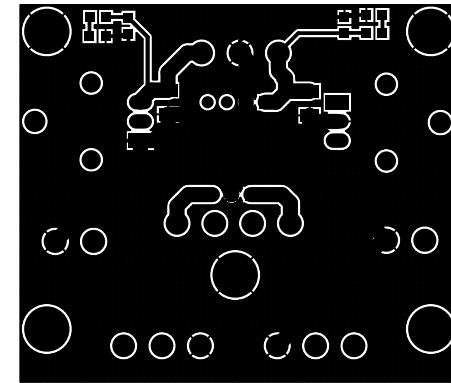




SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 99.06MM X 58.74MM



BOM						
NO	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	BR1	BRIDGE GBL08 OR GBL06	VISHAY	DIGIKEY	GBL06-E3/45GI-ND
2	1	CN1	3 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX	DIGIKEY	277-1248-ND
3	1	CN2	3 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5316-ND
4	1	CN3	4 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5317-ND
5	1	CN4	3 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX	DIGIKEY	277-1248-ND
6	2	C1,C4	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
7	2	C2,C5	2200uF/25V	RUBYCON	DIGIKEY	1189-3651-ND
8	2	C3,C6	10uF/25V SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
9	1	D1	RED LED SMD SIZE 0805	LITE ON	DIGIKEY	160-1427-1-ND
10	1	D2	GREEN LED SMD SIZE 0805	DIALIGHT	DIGIKEY	350-2044-1-ND
11	3	J1,J2,J3	JUMPER 2 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5315-ND
12	2	R1,R2	1.5K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
13	1	T1	VPP24-830 TRANSFORMER 12V-0-12VAC	TRIAD	DIGIKEY	237-1071-ND
14	1	U1	LM7812	TI	DIGIKEY	296-50628-ND
15	1	U2	LM7912	TI	DIGIKEY	LM7912CT/NOPB-ND
16	2	SHUNT	SHUNT FOR JUMPPERS J1,J2,J3	SULLINS	DIGIKEY	S9001-ND
17	2	HT	HEATSINK	AVID	DIGIKEY	HS106-ND
18	2	SC	M3 SCREW X 10MM L	IO AUDIO	DIGIKEY	1937-IO-M3X10/M3HN-50-ND