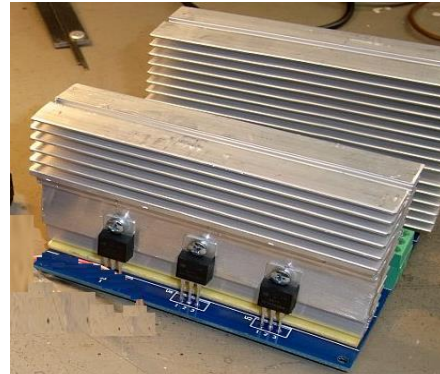


- Dual Voltage regulation from 0 to 25V
- Output current up to 3A
- Based on linear LM317 and LM337 regulators
- Input Power Supply +/- 30V
- 0.1% line and load regulation
- Protections: current limiting, thermal shutdown



Configuration with maximum current 1A



Configuration with maximum current 3A

DESCRIPTION

The Dual Linear Power Supply is designed to be used as configurable, linear, and simple Power Supply in the laboratory. The same PCB can be used for different configurations, by using a different assembly bill of materials as specified in this Datasheet. With th potentiometer the voltage can be regulated at the dual output from 0V up to 25V with symmetrical behavior on positive and negative rail.

TECHNICAL DATA

PARAMETER	DESCRIPTION	VALUE			UNIT
		MIN	TYP	MAX	
SVR	Supply voltage rejection	66	80		dB
eN	Output noise voltage (percentage of VO)		0.003		%
$\Delta VO/VO$	Output voltage temperature stability		1		%
ΔVO	Load regulation		0.1	0.5	%
V_{IN}	Dula Power Supply Input Voltage	10	30	32	V
I_{OUT}	Output Current	10		3000	mA

PCB TECHNICAL DATA

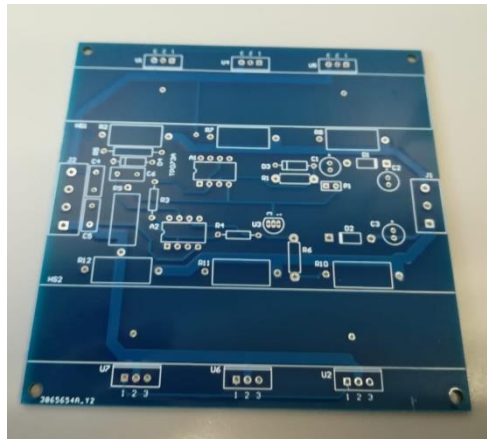
PARAMETER	VALUE	UNIT
Dimensions Lenght x Width Material	100x100 FR4-Standard Tg 130-140C BLUE	mm
PCB thickness \ Layers	1.6 \ 2	mm
Surface finish \ Copper Weight	HASL \ 1	oz

BILL OF MATERIALS (for maximum configuration Version 3 Ampere)

- A1, A2: OPA27 Operational Amplifier [2]
- D1, D2: 33V 1W zener diode [2]
- D3: 1N4148 diode [1]
- D4: Zener diode 5.1V [1]
- C1,C2,C3: capacitor 10uF 50V [2]
- C4,C5: capacitor 470nF polyester [2]
- HS1, HS2 Dissipator $R_{th} = 3^{\circ}C/W$ [2]
- R1,R6: 121ohm 0,25W [2]
- R2,R7,R8,R10,R11,R12: 0.12ohm 5W [6]
- R3: 20Kohm or 22Kohm 0.25W [1]
- R5: 1.5Kohm or 1Kohm 2W [1]
- J1: Phoenix 3 way 2.54mm connector [1]
- J2: Phoenix 4 way 2.54mm connector [1]
- P12: header male 2 [1]
- U1,U4,U5: LM317 Voltage Regulator [3]
- U2,U6,U7: LM337KC Voltage Regulator [3]
- U3 : TLV431 voltage regulator 1.25V [1]
- Z1, Z2: 8 pin sockets for A1, A2 Opamps

For the configuration Current 1 Ampere: Don't assemble U1,U4,U6,U7, R2,R7,R11,R12, replace R8, R10 with short circuits, use dissipators with thermal resistance $R_{th} = 5^{\circ}C/W$.



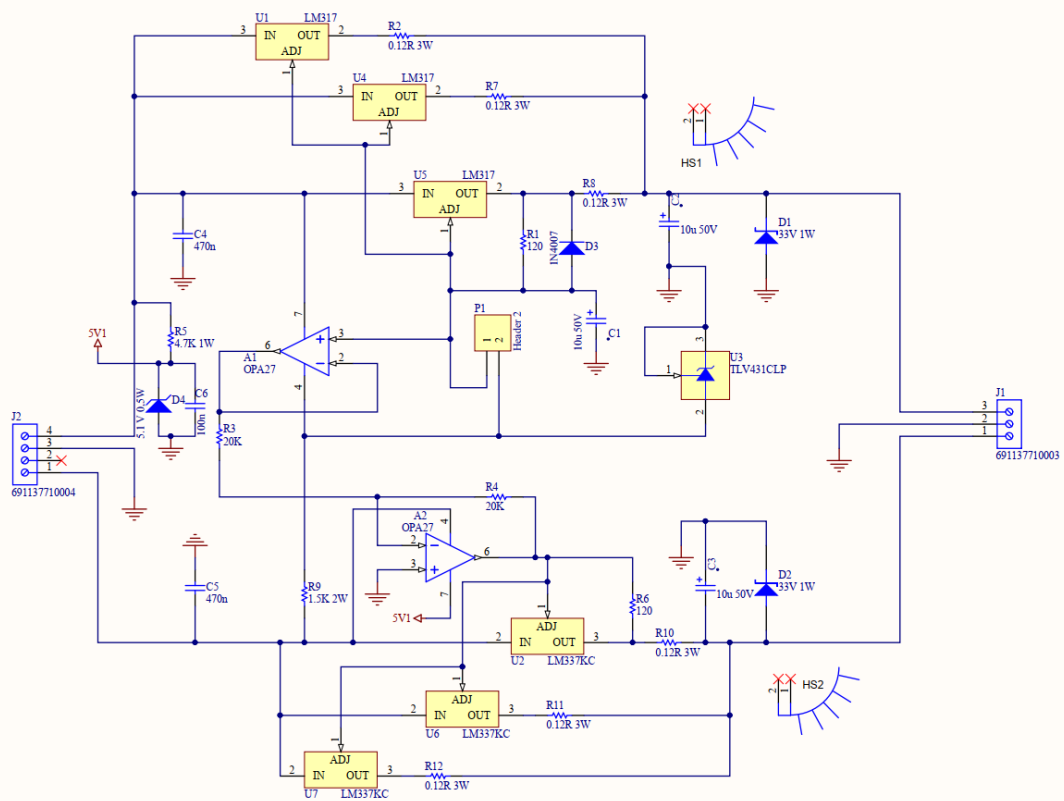


PCB References

USER INFORMATION

1. Connect the P1 header male with an external potentiometer with value 2.2Kohm
2. Connect the connector J2 to the Input Power Supply (Pin 4 to positive rail, Pin 3 to ground and Pin 1 to negative rail)
3. Connect the connector J1 to the load (Pin 3 to positive rail, Pin 2 to ground and Pin 1 to negative rail)
4. Provide a +30V/-30V power supply on the J2 connector
5. Check the output voltage \ current with regulation on potentiometer from 0 up to 25V, not exceeding the maximum current of 3A

ELECTRICAL SCHEMATIC



ORDERING INFORMATION

pieraisaforum@gmail.com



Pier Aisa Electronic
Community Forum

<https://pieraisa.it/forum/> pieraisaforum@gmail.com