

Palstar PS06 6A PSU

By G8MNY

(Updated May 13)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

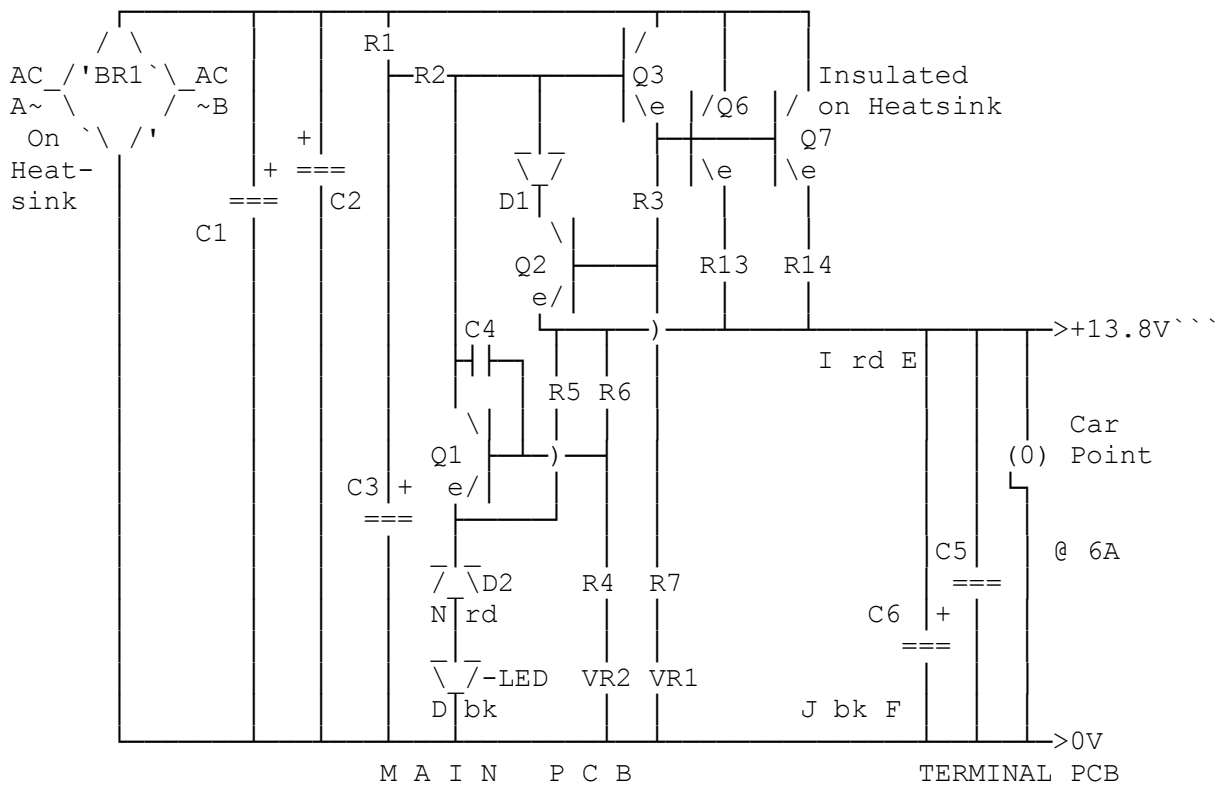
This is a simple design, used on this commercial PSU. It has no overvoltage or fuse protection other than a 1A slow blow mains fuse. It does include current limit & output foldback.

HOW IT WORKS

The bridge rectifier charges up C1 & C2 to 23V. R1 & R2 via hum decoupling C3, puts current into Tab transistor Q3. This drives the two outputs Q6 & Q7.

The output going high powers the zener diode D2 & LED via R5. When the voltage sample via R6, R8 & VR2 is 0.5V higher than the zener voltage Q1 turns on removing the drive to Q3. (note a broken lead to the LED means +23V output!)

When too much current flows, Q2 will turn on as the voltage across R13 & R14 exceeds the voltage set up across R3 by current from VR1. Q2 turning on via D1 remove the drive to Q3. When the output voltage falls below the zener reference output foldback occurs, to maintain a safe output current of about 1 amps into a short circuit load.



No	R	C	Q	D	VR	BR
1	680	3m3 25V	2SC1815	1N4148	10k	10A
2	1k	2m2 25V	2SC1815	6.1V	2k	
3	470	100u 35V	2SD440			
4	470	10n				
5	1k5	220u 25V	-----			
6	330	10n				
7	Link					
8	2k7					
13	0.51					
14	0.51					

## MODIFICATIONS

I have modified mine..

- 1/ Added more smoothing off PCB, 10,000uF 25V across C1.
- 2/ Changed C5 for a 1000uF 16V.
- 3/ Added a 1N4005 diode across output to protect against reverse voltage.
- 4/ Added a 1N4005 diode from output to input to protect against +load voltages.
- 5/ Changed very HOT R13 & R14 for 0.22 2.5W & readjusted VR1 for 6A max.  
Note as R7 is a 0 ohms link, so do not take VR1 to Zero ohms!

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73 De John, G8MNY @ GB7CIP