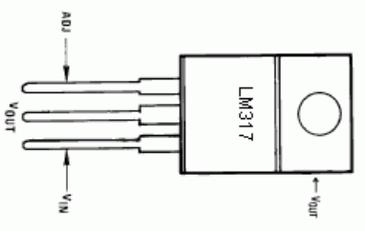
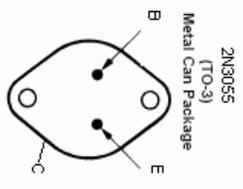
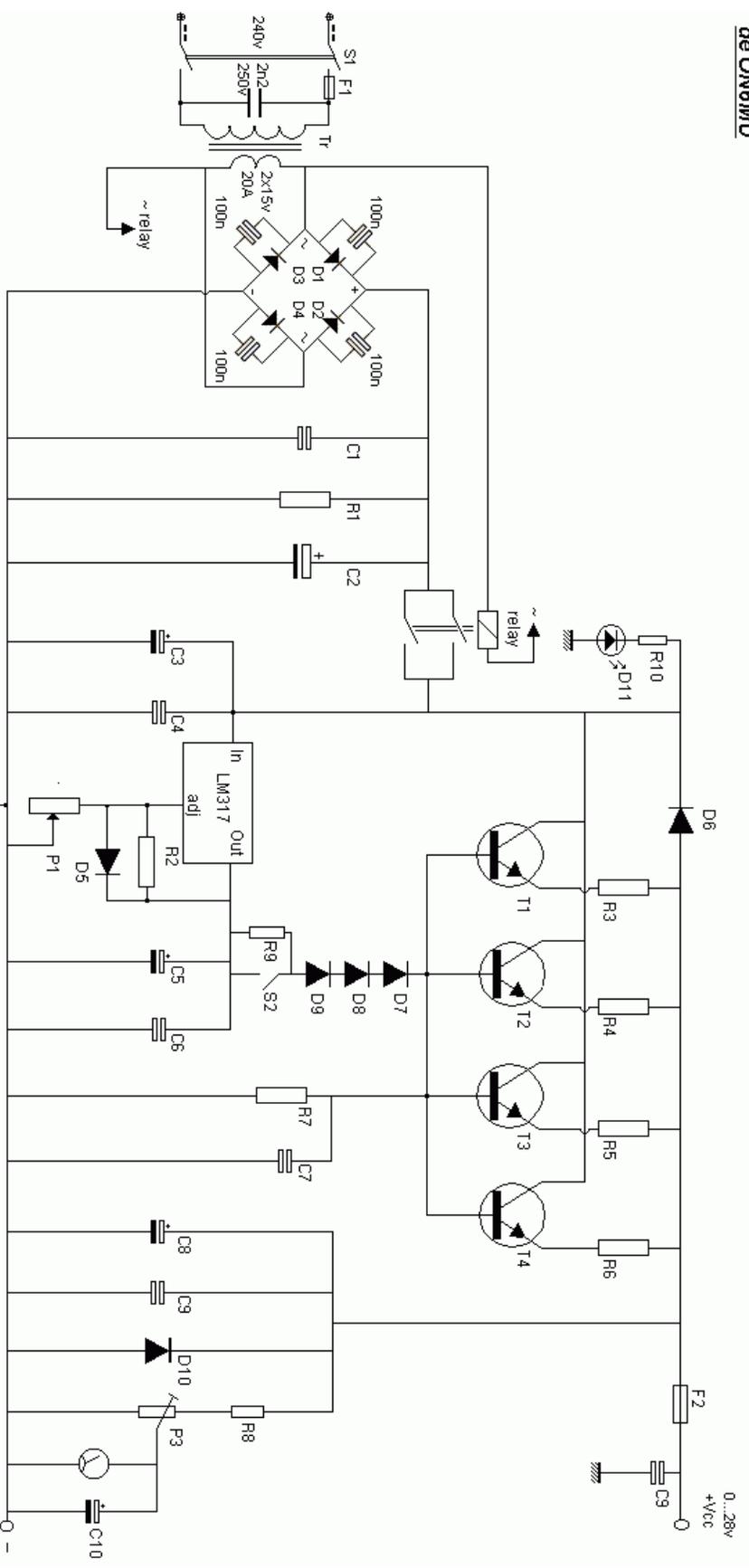


20 Ampere 0...28 volt regulated power supply revision 4
 de ON6MU



www.qsl.net/on6mu

Part list for 20 Ampere regulatable power supply:

- 2 x 15 volt 20+- amps
- D1...D4= Bridge rectifier MB2504 (25 amps cooled)
or eight BYW29 8 amp diodes (TO220 pinning cooled)
or 8 x MR750 (MR7510) diodes (MR750 = 6 Ampere diode) or 16 x 1N5401 (1N5408) diodes.
- F1 = 2 Amp
- F2 = 25 amp
- R1 2k2 2,5 Watt
- R2 240 ohm
- R3,R4,R5,R6 0.1 ohm 10 watt
- R7 6k8
- R8 10k
- R9 47 Ohm 1 watt
- S2 mini switch
- R10 8k2
- C1,C7,C9 47nF
- C2 four times 4700uF/50v or one 22000uF/50v
- C3,C5 10uF/50v
- C4,C6,C9 100nF
- C8 330uF/50v
- C10 1uF/16v
- D5 1N4151
- D6 1N5401
- D10 MR750
- D11 LED
- D7, D8, D9 1N4001
- IC1 LM317
- Two 2N3055 transistors
- P1 5k
- P3 10k trimmer
- relay = 30 volts AC, 2x10 amp switching

S2 switches between +- 3 Amps and full output current

The relay is used to switch off the power supply voltage when the mains (S1) are/is switched off. So no delay do to the discharge of C2, and so preventing output voltages from not return to zero immediately.

A MB2504 is used as it is a 25 ampere rectifier bridge which also should be cooled. Or you could use eight BYW29 8 amp diodes (TO220 pinning) mounted on a heat sink.

Mount a little heatsink on the LM317 IC

Remember to isolate the 2N3055 transistors from the chassis/radiator! Use a radiator (heat sink) of appropriate size and surface area; insulating and heat-conducting spacer or at least a thin mica; hot adhesive and thermal paste.