..:: LEAD-ACID BATTERY CHARGER #2 ::..

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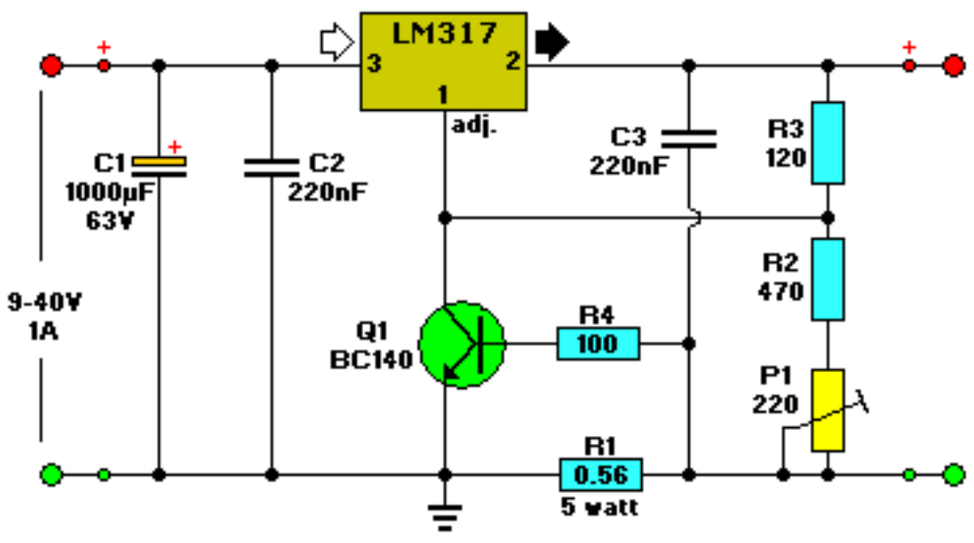
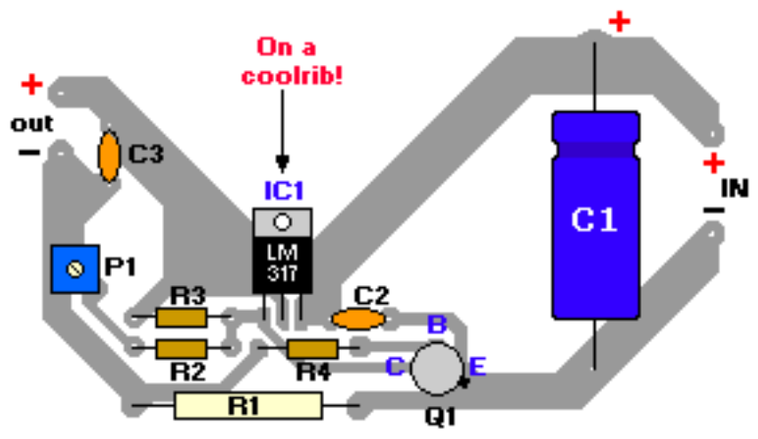
..:: CIRCUIT DIAGRAM ::..



..:: PARTS LAYOUT ::..



..:: DESCRIPTION and PARTS LIST ::..

Parts List:

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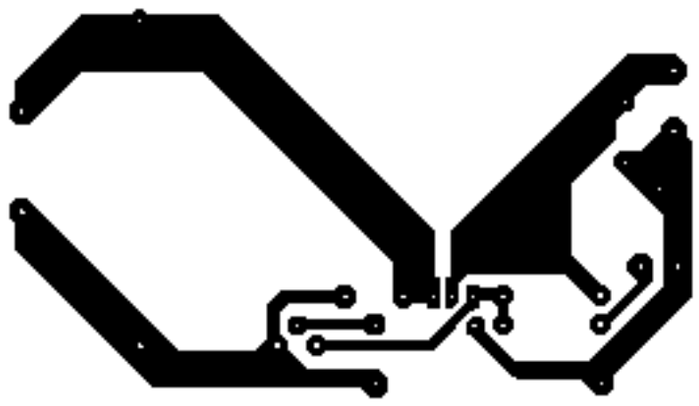
R1 = 0.56 Ohm, 5W, WW      C1 = 1000uF/63V          Q1 = BC140
R2 = 470 Ohm               C2 = 220nF               Q2 = LM317,
Adj. Volt Reg.
R3 = 120 Ohm               C3 = 220nF                    (On
large coolrib!)
R4 = 100 Ohm
P1 = 220 Ohm
```

Description:

The above pictured schematic diagram is just a standard constant current model with a added current limiter, consisting of Q1, R1, and R4. The moment too much current is flowing biases Q1 and drops the output voltage.The output voltage is: 1.2 x (P1+R2+R3)/R3 volt. Current limiting kicks in when the current is about 0.6/R1 amp.For a 6-volt battery which requires fast-charging, the charge voltage is 3 x 2.45 = 7.35 V. (3 cells at 2.45v per cell). So the total value for R2 + P1 is then about 585 ohm. For a 12 V battery the value for R2 + P1 is then about 1290 ohm. For this powersupply to work efficiently, the input voltage has to be a minimum of 3V higher than the output voltage.P1 is a standard trimmer potentiometer of sufficient watt for your application.The LM317 *must* be cooled on a sufficient (large) coolrib.Q1 (BC140) can be replaced with a NTE128 or the older ECG128 (same company). Except as a charger, this circuit can also be used as a regular power supply.



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