

3A SWITCHING REGULATOR

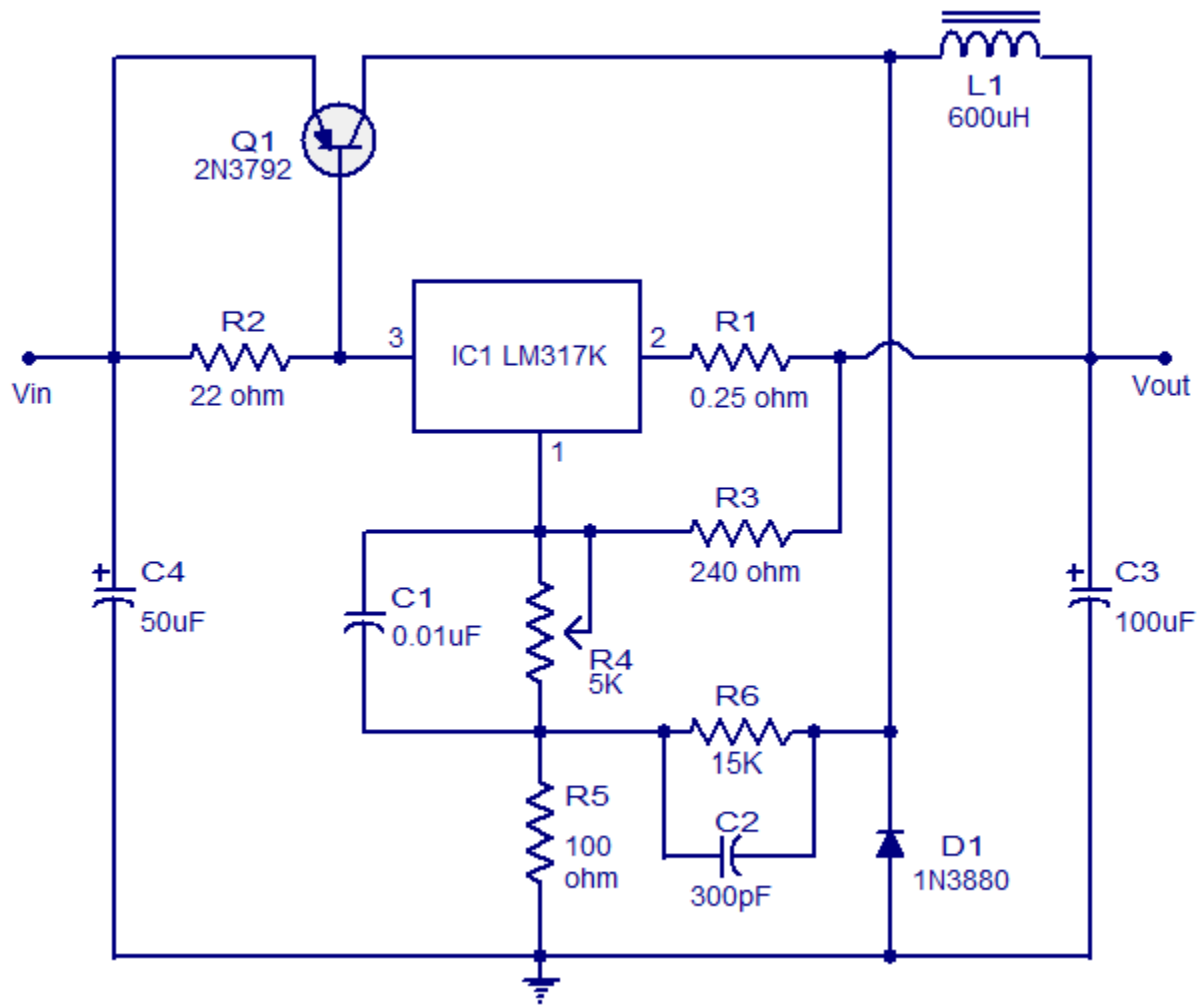
Description.

When compared to linear voltage regulators the switching voltage regulators are much power efficient. In the case of linear voltage regulators the difference between the input and output voltage is just wasted and for switching regulators there is almost no such wastage and that's why the switching regulators have great power efficiency ranging up to 85% . In simple words, the switching regulator operates by taking small bits of energy from the input voltage source and then transferring it to the output with the help of a solid state switch and a control circuitry. Since the switching element is either fully open or closed at any moment, no energy is wasted across it. The control circuit controls the duty cycle of the solid state switch which in turn determines rate at which energy is transferred to the output.

The electronic circuit given here is of a simple and low cost switching regulator using the IC LM317 that can deliver up to 3A of current. The input voltage range of this circuit is between 8 to 35V DC and the output voltage can be adjusted between 1.8 to 32V DC. The output voltage can be adjusted by using the POT R4.

Circuit

diagram.



Source : <http://www.circuitstoday.com/3a-switching-regulator>