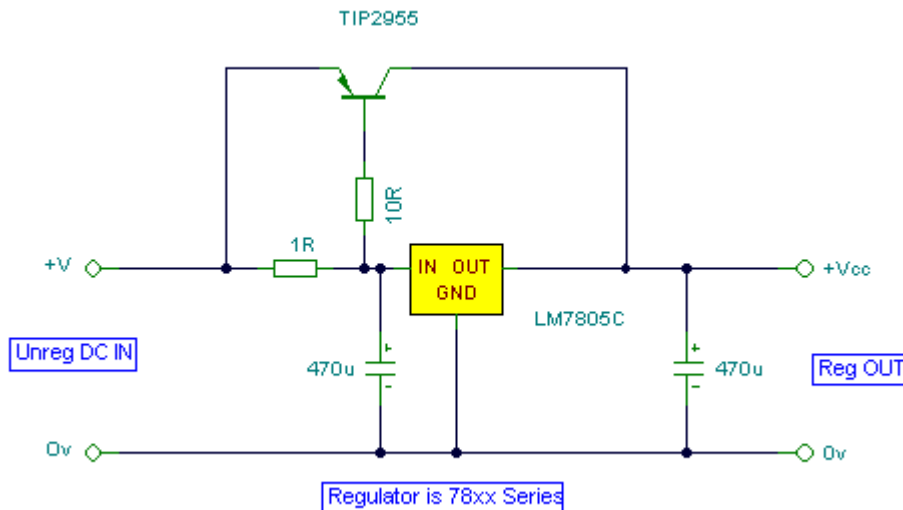


Increasing Regulator Current



Notes:

Although the 78xx series of voltage regulators are available with different current outputs, you can boost the available current output with this circuit. A power transistor is used to supply extra current to the load the regulator, maintaining a constant voltage. Currents up to 650mA will flow through the regulator, above this value and the power transistor will start to conduct, supplying the extra current to the load. This should be on an adequate heat sink as it is likely to get rather hot. Suppose you use a 12v regulator, 7812. The input voltage should be a few volts higher to allow for voltage drops. Assume 20 volts. Lets also assume that the load will draw 5amps. The power dissipation in the transistor will be $V_{ce} * I_c$ or $(20-12)*8=40$ watt.

It may keep you warm in the Winter, but you will need a large heatsink with good thermal dissipation.

If you want to increase the output current with a negative regulator, such as the 79xx series, then the circuit is similar, but an NPN type power transistor is used instead.