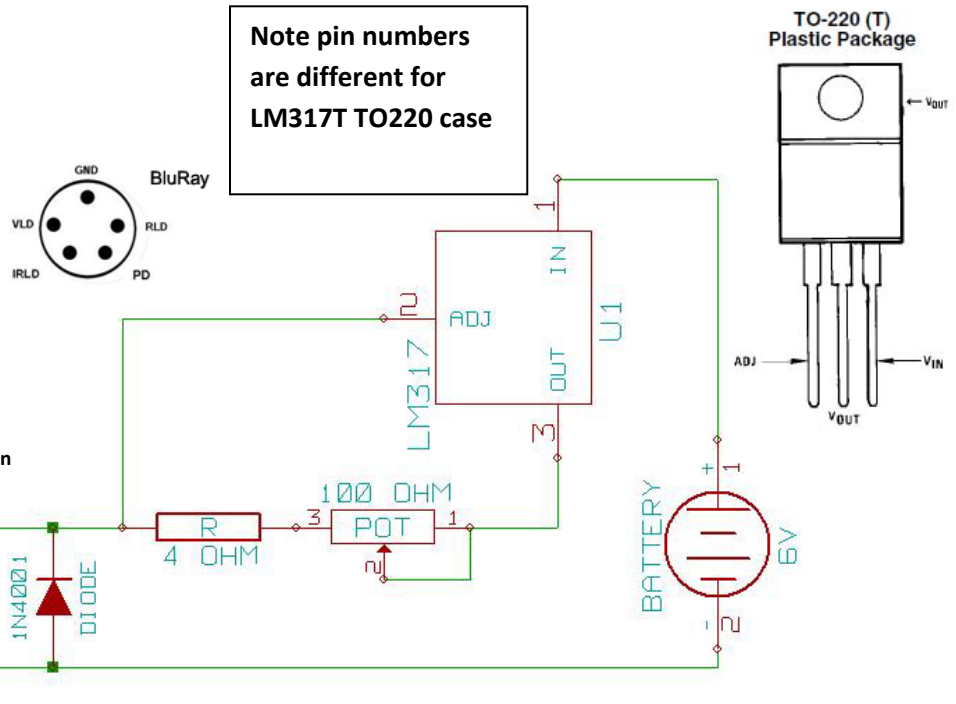
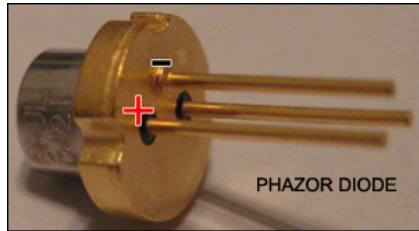


# Daedal Laser Driver



The LM317 uses 1.25 volts for its reference voltage:

$$R = 1.25V / I_{\text{desired}} \quad \text{Ex: } I_{\text{desired}} = 250\text{ma (SenKat): } 1.25 / .250 = 5 \text{ ohms}$$

$$\text{Ex: } I_{\text{desired}} = 38\text{ma (BluRay): } 1.25 / .038 = 33 \text{ ohms}$$

$$\text{Ex: } I_{\text{desired}} = 1100\text{ma (445nm): } 1.25 / 1.100 = 1.14 \text{ ohms}$$

$$\text{Alternately, } 1.25\text{v} / 5 \text{ ohms} = .250\text{A}$$

$$1.25\text{v} / 1.14 \text{ ohms} = 1.096\text{A}$$

$$\text{Resistor Wattage: } 1.25\text{v} \times .250 = .3125 \text{ W}$$

$$1.25\text{v} \times 1.10\text{A} = 1.375 \text{ W}$$

Vin should be 3 volts more than the voltage going to the diode. A SenKat diode running at 250ma will have about 3 volts across it. Therefore a minimum of 6 volts is needed. I recommend 6 NIMH batteries or 2 RCR123's for use with Daedal's driver.

This is why **you need at least 8 volts to run the blu-ray**. You will find when you have it hooked up, the voltage across it will be appx. 5 volts. But since it will only draw ~38mA, you can run it with a 9 volt battery. (The bluray diode mentioned here is a PS3 diode.) (for BluRay use 33 ohms)

**Phazor:** +200mW, max ~350mW(with maximum heatsinking/cooling) (350 to 400ma (max) = 3.33 ohms)