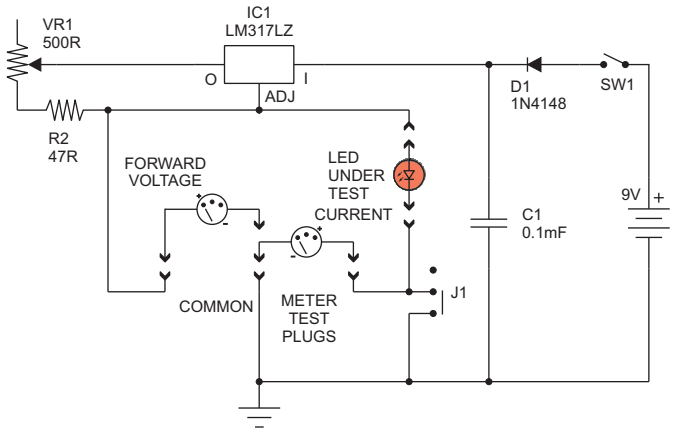
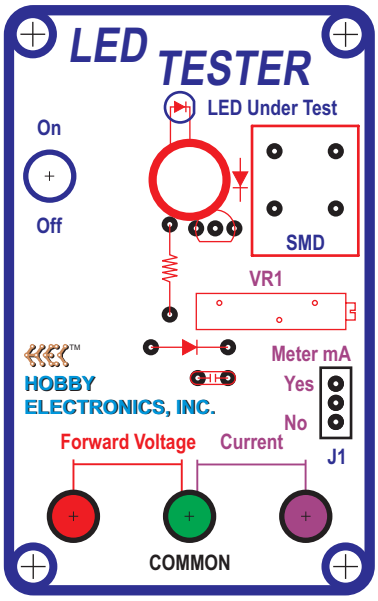
CURRENT REGULATED LED TESTER V3





BOTTOM LABEL

To use:

1. Place LED into tester
2. Set J1 to Yes
3. Meter current and adjust VR1 to 20 ma
4. Set J1 to No
5. Measure Forward Voltage

V_{drop} = Source Voltage -Forward Voltage

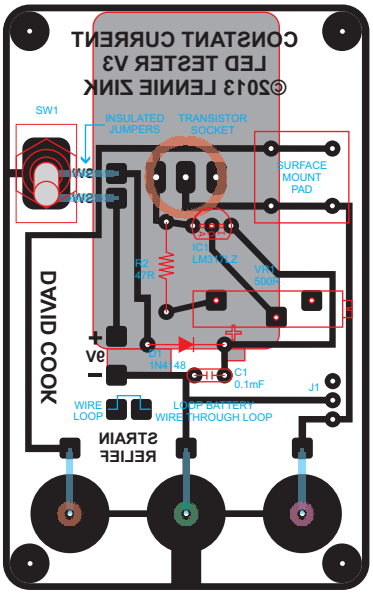
I=Current (Amp)

R=Dropping Resister

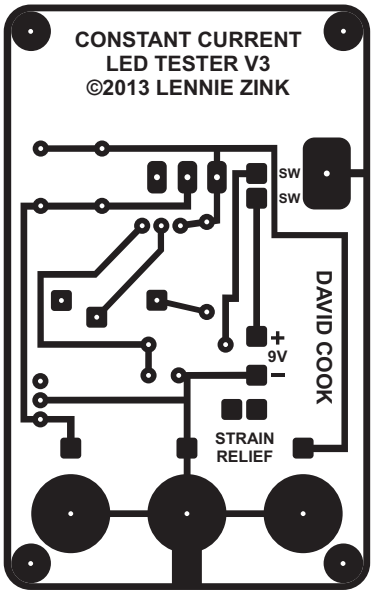
Formula

$V_d/I=R$

SURFACE MOUNT PAD



PARTS LAYOUT



BOTTOM VIEW

Project Case: Replace the aluminum panel with the PCB. Cut, file, drill and test fit in box. Carefully cut the label and align on PCB before adding components. Secure battery to case with “Sticky Tack.”

Label (Avery 5165): Print label. Spray with very light coats of clear Krylon®.

Box: 2 1/8” W x 3 1/4” L x 1 1/8” D

CURRENT REGULATED LED TESTER
http://www.instructables.com/id/Current-Regulated-LED-Tester/step2/Circuit-schematic-and-layout/
(Notice: The Instructables schematic is in error.)
Original by David Cook: http://www.robotroom.com/LEDTester.html

Assuming your LED doesn't come with any specifications, you'd want to know how much current and voltage to supply it to get the brightness you want. First, hook up your multimeter to measure the current and remove the shorting block. Place your LED on the tester and adjust the trimpot until you are satisfied with the brightness. If you are unsure of the maximum current that you can supply to your LED it is usually safe to assume an optimal working current of 20mA. Record down how much current is flowing through the LED (lets assume its 25mA). Next, replace the shorting block and measure the voltage. Record it down (lets assume its 1.8V). Now let's say you want to power this led from a 5V supply. You would then have to drop 3.2V from the 5V to reach the 1.8V needed to power your LED (5V - 1.8V = 3.2V). Since we know your LED consumes 25mA, we can therefore calculate the resistance needed to drop 3.2V from the equation V / I = R.

3.2V / 0.025A = 128 Ohms

You can now connect a 128 ohm resistor in series with your LED and power it with 5V to get the exact brightness that you want. Most of the time you will be unable to find a resistor with the exact value of resistance that you calculated. In that case, you may want to get the next highest resistance value just to be safe.