

7 Volt Regulator or custom regulator voltage

Common TO-220 cases voltage regulator are supremely handy in most circuits today. Many ranges of voltages are available but this page shows you how to get 'custom' voltages out of them.

Instead of the COM pin going directly to ground, a resistor can be used to bring the voltage up to a level you need. Of course the regulator value must be lower than the voltage you are seeking. In my case, I was one day needing a 7 volt regulator for a Buss Line Tracer project. This is what I came up with.

R1 is just the load, do NOT add to the circuit. This was a CircuitMaker simulation and the resistor was needed.

R2 is the value you need to set for the desired voltage output. A 15 turn trim pot is perfect for this. In that way, you can tune in the voltage you want without hassle.

As for my 7 volt need, I used a 5 volt regulator and a (1k) 15 turn trim pot set at 561 ohms. It worked perfectly in the real world outside Circuitmaker. I was well pleased.

You will be able to get a regulated output of -2 volts of the input voltage into the regulator. For example: I had 12volts input so I could have set it upto 10 volts regulated output.

Just a hint: NEVER USE A VOLTAGE HIGHER THAN 30 VOLTS ON THE REGULATOR, no matter what the spec sheet says. Any input voltage higher than this is a bad design!

