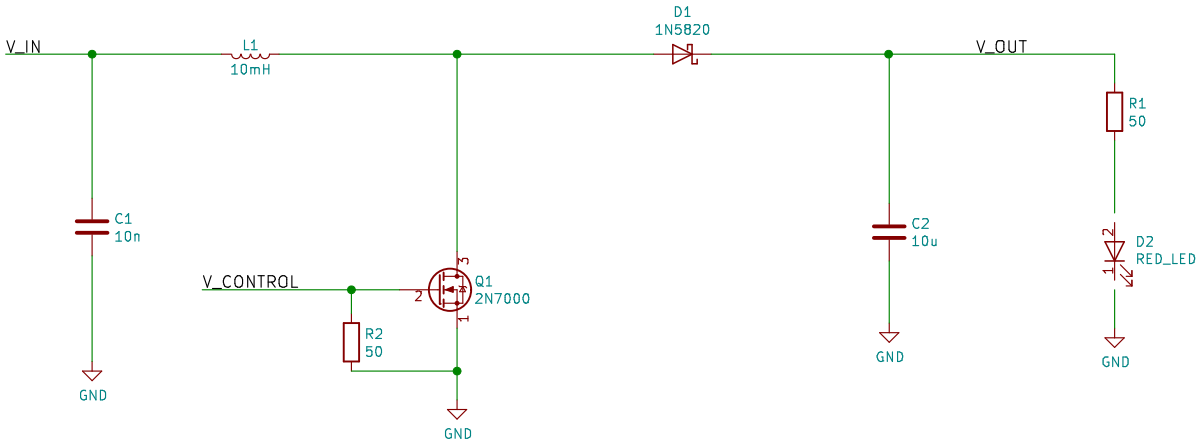
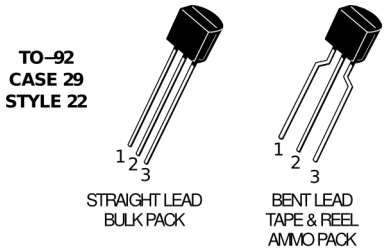
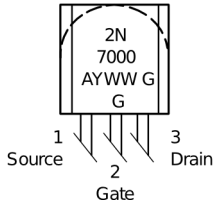




MARKING DIAGRAM AND PIN ASSIGNMENT



Instructions:

1) set V_IN to 1V (set current limit to 100mA)

2) connect sig gen to V_CONTROL, set for square wave, 5V amplitude, 10kHz frequency

3) Connect V_OUT to scope. Observe effect of adjusting duty cycle of V_CONTROL between 50% – 80%

4) observe effect of turning on and off V_CONTROL signal

5) remove R1 & D2, observe effect of turning on V_CONTROL (CAUTION!! HIGH VOLTAGE!!)

6) BONUS: Replace R1 & D2 with a single resistor, value >= 100.

7) BONUS: Using equation for duty cycle (below), do an experiment to work out efficiency (eta).
Does eta depend on output voltage, input voltage or output load resistance?
Any ideas why?

$$D = 1 - \eta \frac{V_{IN}}{V_{OUT}}$$

Dan Weatherill
Boost converter demonstrator

Sheet: /
File: converter.sch

Title: Oxhack analog electronics #3

Size: A4	Date: 2017-09-13	**Rev: 0.1**
KiCad E.D.A. eeschema 4.0.7		Id: 1/1