

ECE317 Lab Prototype Power Stage

Labs 4, 5 and 6 require the careful construction of a Buck dc-to-dc converter and associated circuitry. This is initially undertaken in Lab 4. The specific circuitry under consideration is shown in Fig. 1. This circuitry should be constructed on a copperless perforated board and the components should be soldered together. The rest of the circuitry (not shown below, but shown in labs 4 and 5) is constructed on a solderless breadboard.

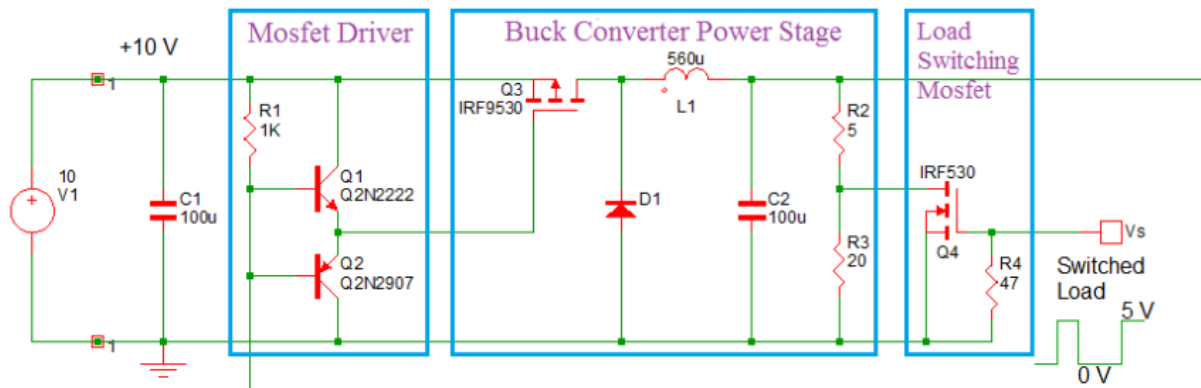


Fig. 1 Buck DC-to-DC voltage converter. The circuitry shown in this figure should be constructed on a copperless perfboard.

The buck converter handles significant current which makes it not suitable to be constructed on a solderless breadboard. To aid in the construction of this circuit, a layout diagram is shown in Figure 2 and a photo of a prototype using this layout is shown in Figure 3. To minimize problems associated with the Buck converter power stage it is suggested that the same construction should be followed.

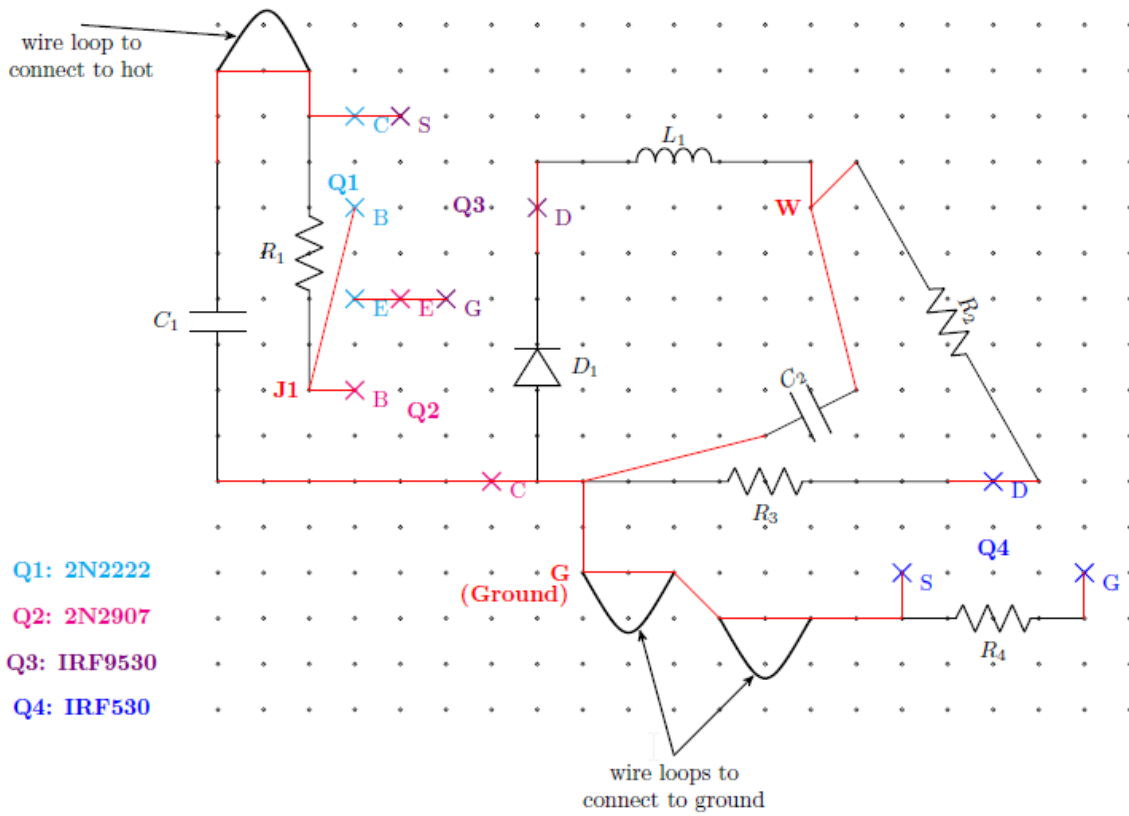


Figure 2: Layout diagram

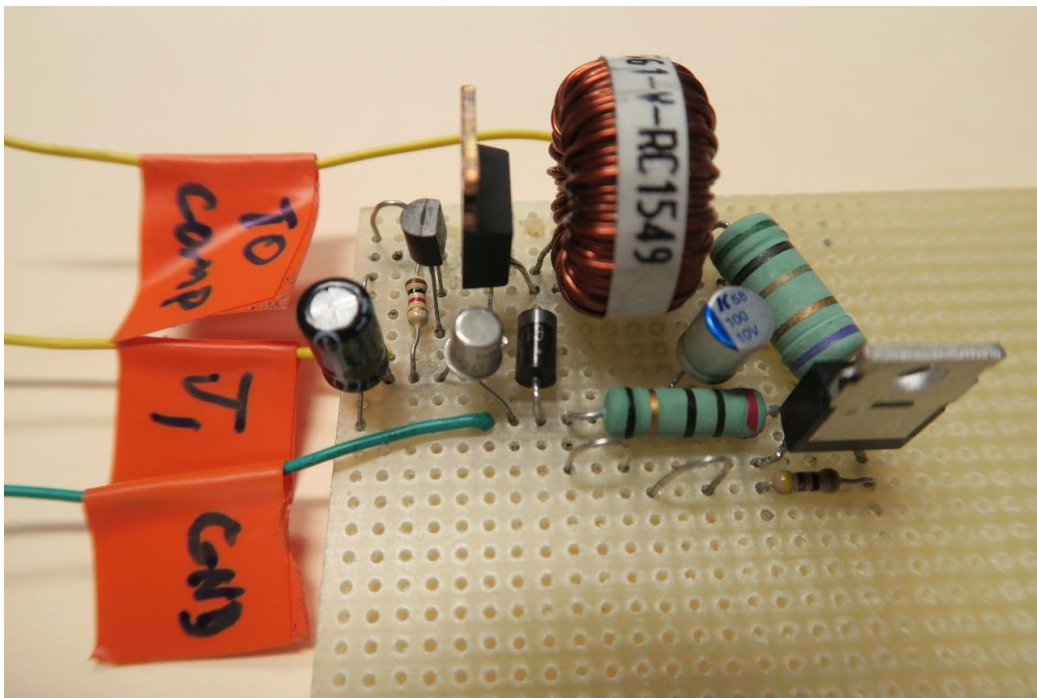


Figure 3: Photo of the constructed buck converter power stage