Lab Report 6

Jonathan Westerfield

224005649

March 6, 2018

Objective:

The purpose of this laboratory exercise is to investigate the basic properties and characteristics of semiconductor diodes. I-V characteristics, switching characteristics, and rectification properties are examined, leading to the construction of a DC power supply.

Introduction:

First we start off by testing out the behavior of a single signal diode by running a ramp voltage through it to see where the cutoff is. The we build a rectifier in order to see how the diodes affect the ripple of the power.

Calculations:

Simulation Plots

Experimental Current Plot

Experimental Plots

Conclusion:

There were almost no differences between my simulated schematic and my experimental one. However, the calculated values for the ripple were different. The ripple in the simulated schematic was much, much lower than that of the experimental one. This could be attributed to imperfections in the diodes, extra resistances in the breadboard and in the voltage being provided was not exactly 3.70 volts.