ECE 320 - Homework #5

AC to DC Converters, DC to DC Converters. Due Monday February 13th, 2017

AC to DC Converter.



- 1) Find L and C so that
 - V1 has a ripple of 2Vpp and
 - V2 has a ripple of 0.5Vpp
 - For this value of L and C, what is the DC voltage at V2?
- 2) Simulate this circuit in PartSim to check your analysis.

3) Lab: Build this circuit in lab with L=0. Check the DC voltage and the peak-to-peak voltage at V1 and compare to your analysis. Note: The 20Vp sine wave source is a wall plug in room 237 and 211 which is capable of 500mA.

DC to DC Converter



- 4) Find the duty-cycle of the switch so that the voltage at V2 is 5V DC.
- 5) Assume C = 0. Determine L so that V2 has a 2Vpp ripple
- 6) Add C so that the ripple at V2 becomes 500mVpp.
- 7) Check your design in PartSim.