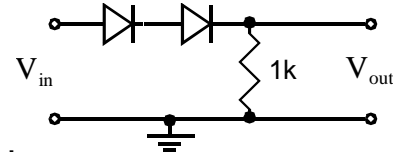


Analog and Digital Electronics
Spring 2018

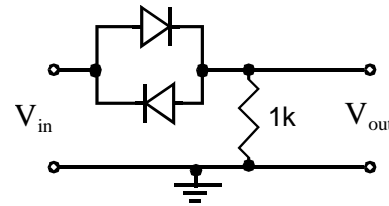
Homework Assignment 5: Due Monday, March 19. (Assume the diodes are made of silicon.)

1. Sketch the input and output for the circuit at the right if the input is a sine wave of 2 volt peak to peak amplitude, i.e. $\pm 1.0V$.



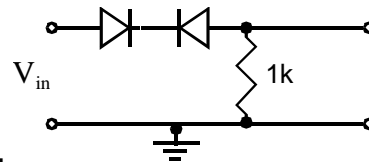
2. Repeat # 1 for a sine wave input of 6V peak to peak.

3. Sketch the input and output for the circuit at the right if the input is a triangle wave of amplitude 6V peak to peak.

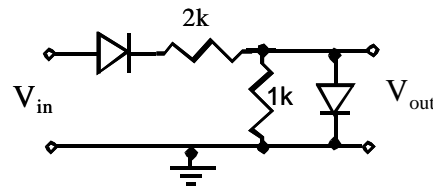


4. A $470\mu F$ capacitor initially has a voltage of 10V across it. Current is drawn off the capacitor. If the current is 300 mA, how much will the voltage change in 8 ms? (Note 8 ms is approximately one half the period for 60 Hz.)

5. Sketch the input and output for the circuit at the right if the input is a triangle wave of amplitude 6V peak to peak.



6. What is the output voltage if the input voltage is 2V?. (Hint: Use Kirchhoff's rules.)



7. What is the output voltage if the input voltage is 4V in problem 6 above?