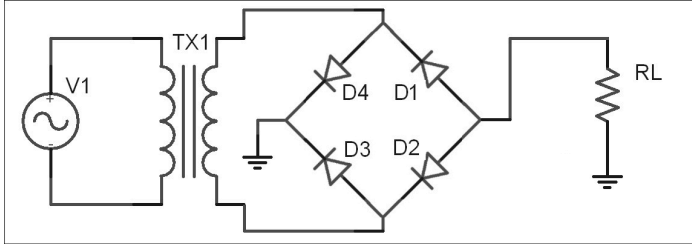


Since the orientation of a diode determines whether it will conduct when the source is positive or when the source is negative, we can simply turn the diode or diodes around in a rectifier circuit if we want a negative voltage instead of a positive voltage. All the numeric values will have the same magnitude, but the Peak Voltage and the Average Voltage will be negative.

Be aware that the RMS voltage is **never** negative -- any negative signs are eliminated in the "squaring" portion of RMS. This makes sense, because power consumption by a load is never negative, and the purpose of determining the RMS voltage is for power calculations.

Question: Consider the Bridge Rectifier below. Use the same components and conditions as before: 120 V_{AC} at 60 Hz, 8:1 transformer, 0.7 V barrier potential, 220 Ω load resistor.



1. What is the peak voltage seen at the load? Include both the sign and the magnitude.

V_p

2. What is the frequency of the signal at the load?

Hz

3. What is the average voltage seen at the load?

V_{DC}

4. What is the RMS voltage at the load?

V_{RMS}

The other rectifier circuits can also be made negative following the same basic steps.