

ECE 320 - Quiz #6 - Name _____

H Bridges, DC to DC Converters, Fourier Transforms

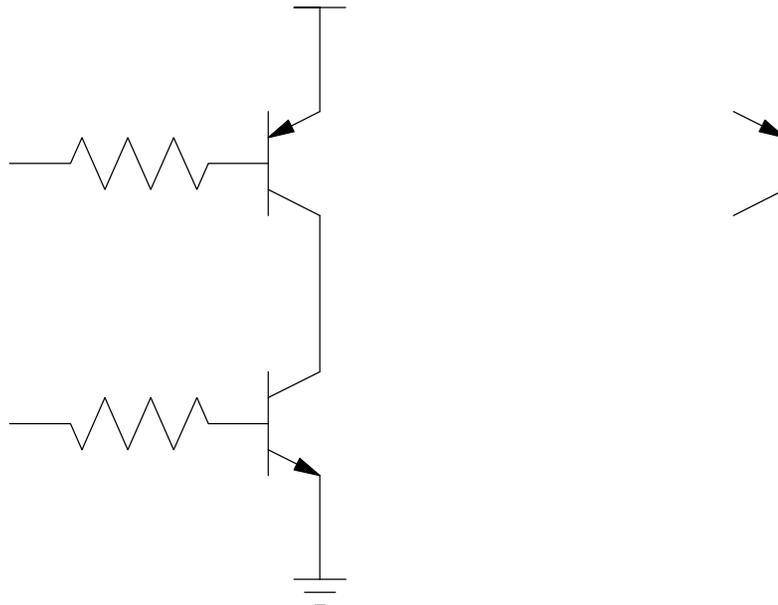
H-Bridge Analysis:

1) Determine the voltages and currents for the following H-bridge. Assume ideal 3904 & 3906 transistors:

- $|V_{be}| = 0.7V$
- $|V_{ce}| = 0.2V$ when saturated
- Current gain = $\beta = 100$

Let $R = 900 + 100 * (\text{your birth month}) + (\text{your birth date})$

R 900 + 100*mo + day	I1	I2	I3	V4	V5

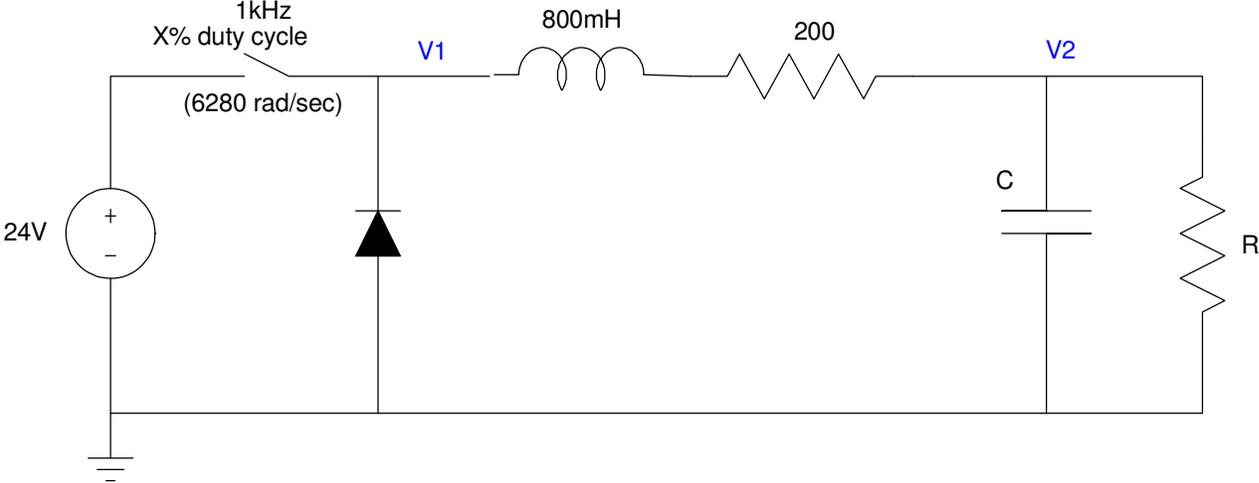


DC to DC Converter: Design (note: +24V DC power supply)

4) Determine the duty cycle and C so that

- V2(DC) is 7.50V and
- V2(AC) = 350mVpp

R 900 + 100*mo + day	Duty Cycle (X) %	C



DC to DC Converter

5) Determine the voltages and currents for the following DC to DC converter. Assume ideal 3904 & 3906 transistors:

- $|V_{be}| = 0.7V$
- $|V_{ce}| = 0.2V$ when saturated
- Current gain = $\beta = 100$

R	V1	V2	I3	I4	I5
900 + 100*mo + day					

