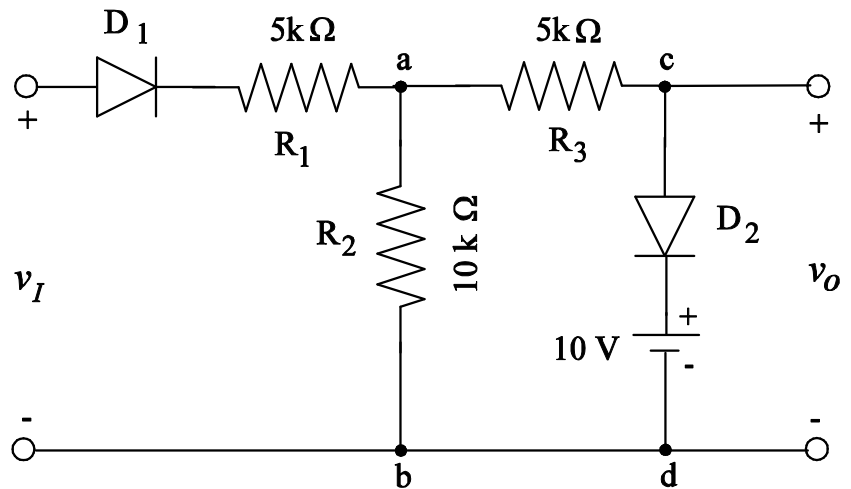


EE101
Tutorial-3(21 Aug 2014)

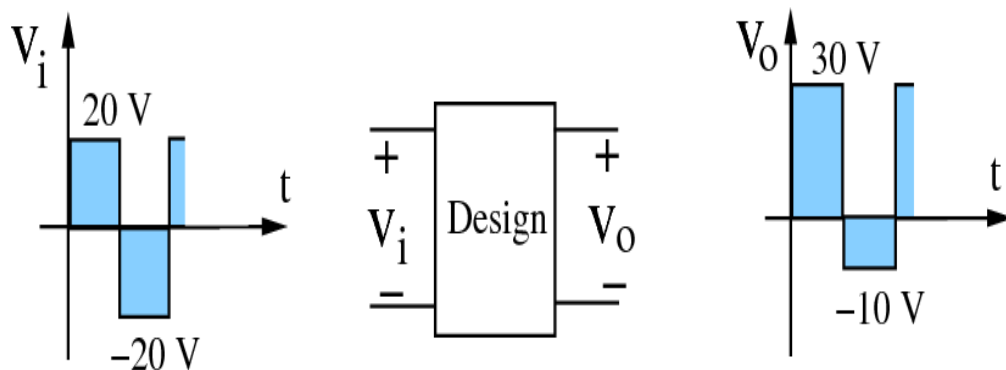
Q1. For the circuit shown in Figure, assume that the diodes are ideal.

(a) Sketch the transfer characteristic of the circuit for $-20\text{ V} \leq v_I \leq 20\text{ V}$.

(b) If the diode D_2 in the circuit is reversed, sketch the resulting transfer characteristics for $-20\text{ V} \leq v_I \leq 20\text{ V}$.



Q2. Design a clamper using a diode with forward voltage of 0.7 V to perform the wave shaping shown in Figure below. Assume the frequency of the square-wave input is 1 kHz .



Q3. A transistor has $\beta = 100$. Given that for this transistor base current I_B is set in such a way that $I_B = 10 \times I_{CO}$. If $I_B = 20\text{ }\mu\text{A}$, find I_C and I_E .