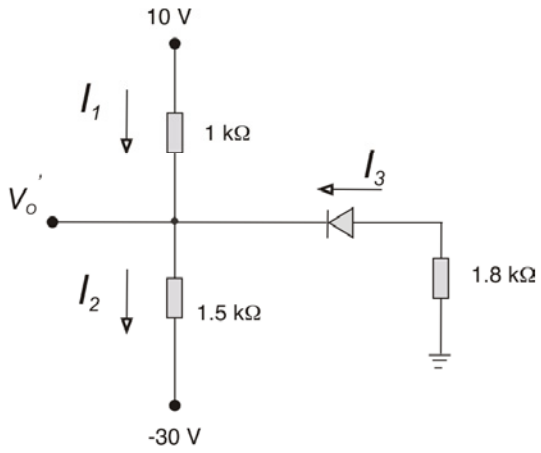
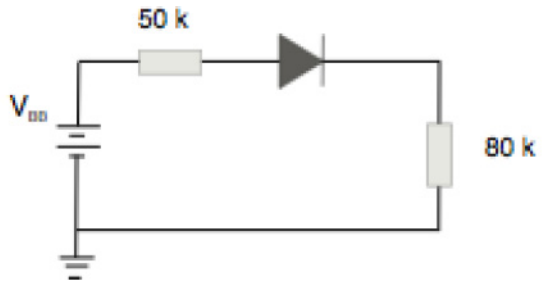
Diodes

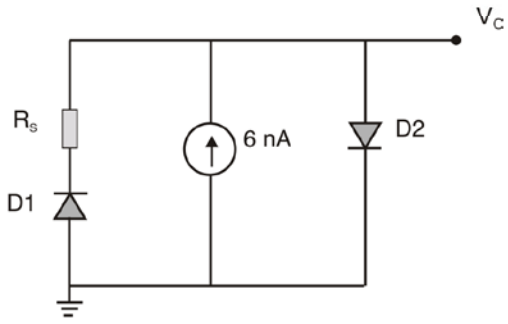
1-28 Calculate V_o and the current through each resistor. Assume that the forward bias diode voltage is 0.7 V.



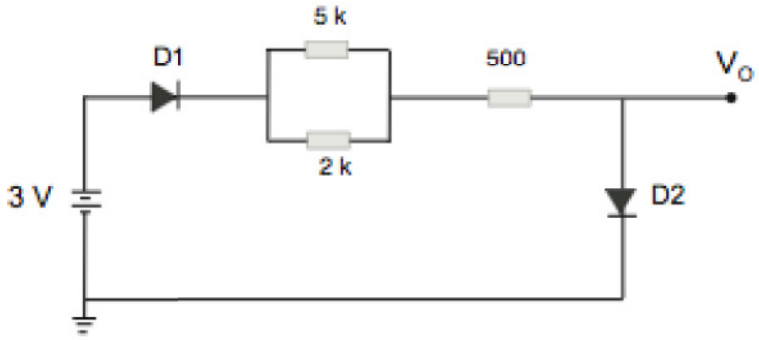
1-29 Given that I_S = 10 nA. Calculate I_D and V_D for (a) V_{BB} = 1 V and (b) V_{BB} = 10 V.



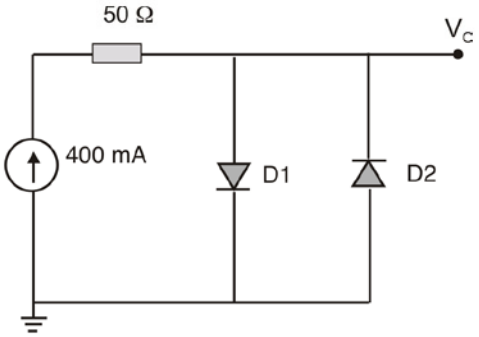
1-30 Calculate V_o given that the reverse bias saturation current I_S = 1 nA and you are at room temperature.



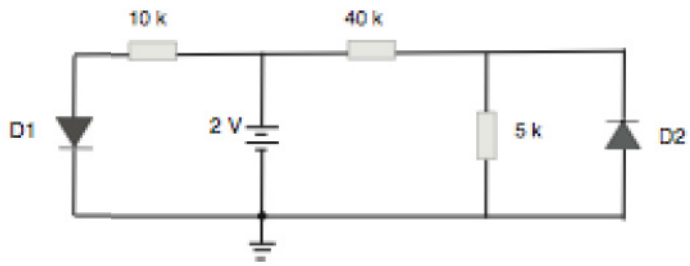
1-31 Diode D_1 has a reverse bias saturation current of I_{s1} = 1 nA, and diode D_2 has I_{s2} = 4 nA. At room temperature, what is V_o?



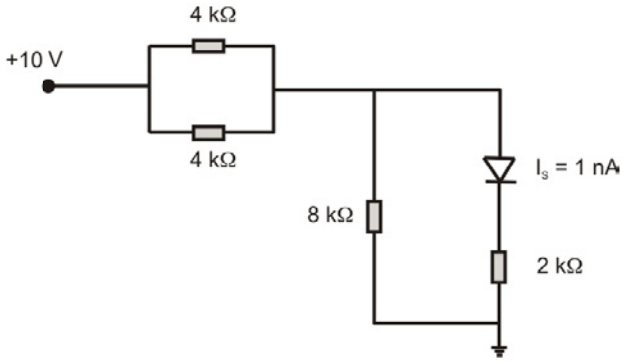
1-32 Calculate the voltage across the diodes given that the reverse bias saturation current in D_1 is I_{s1} = 175 nA, and I_{s2} = 100 nA.



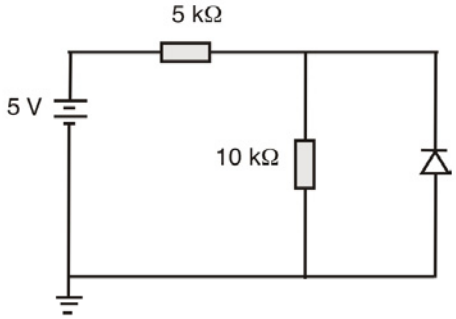
1-33 Given that $I_{sD1} = I_{sD1}$ = 100 pA. Calculate I_{D1} and V_{D1}. Calculate I_{5k}.



1-34 Calculate the diode current and voltage.



1-35 Calculate the capacitance of the *pn* junction diode where C_{j0} = 100 fF and the built-in potential is 0.72 V.



1-36 $I_s = 2$ μA for the diode. Calculate V_D and I_D.