

Problem T6 - updated

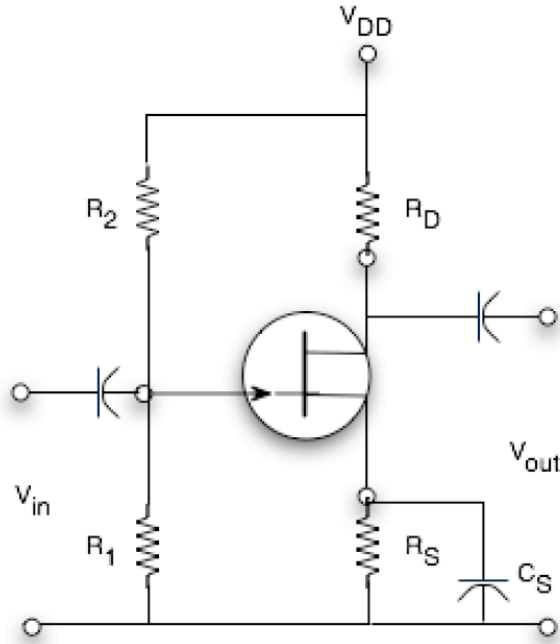


Figure 1: Common source JFET amplifier.

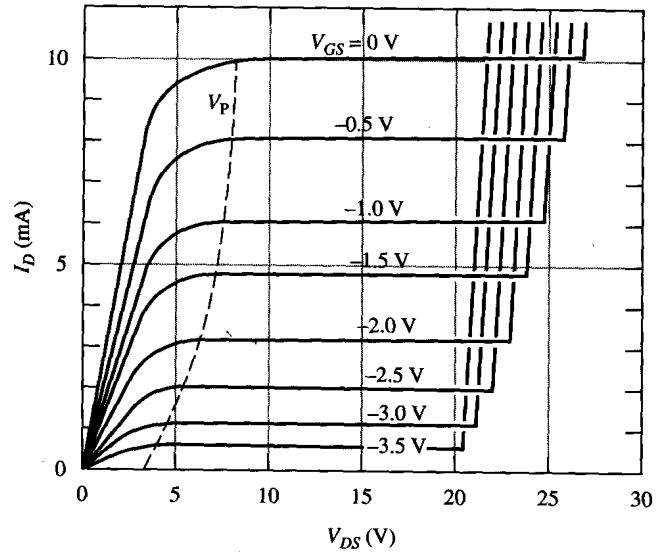


Figure 2: JFET current-voltage characteristics.

Figure 1 shows a common source JFET amplifier.

- a) Using the JFET characteristics of Figure 2, find the resistor values that would put the working point of the amplifier at $V_{GS} = -1.5\text{V}$ for $V_{DD} = 15\text{V}$ and $R_D + R_S = 1.5\text{ k}\Omega$.
- b) What is the AC voltage gain $\Delta V_{out}/\Delta V_{in}$ for your choice of components?
- c) What bypass capacitor C_S should be placed in parallel with R_S if the amplifier is to amplify signals down to 30 Hz?