Example for Drain Current

Problem 1: A JFET has the following parameters : I_{DSS}=5 mA and $V_{GS(off)} = -6$ V. Find I_D for $V_{GS} = -2.5$ V.

Example for Drain Current

Problem 2: Determine the transconductance of the given FET when the gate to source voltage changes from -3.5 V to -3.0 V and the drain current changes from 3 mA to 4 mA.

Example for V_{DS} and V_{GS}

Problem 3: Determine V_{DS} and V_{GS} for the given JFET when I_D=5 mA and V_{DD}=15 V.

Example for I_D and V_{GS}

Problem 4: Determine I_D and V_{GS} for the given JFET if V_D=7 V.

Example for E-MOSFET Drain Current

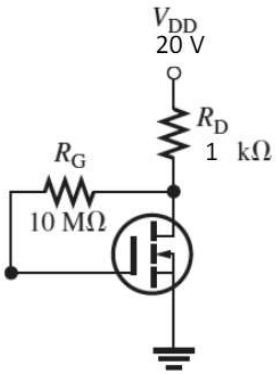
Problem 1: The datasheet for an E-MOSFET gives $I_{D(ON)}$= 500 mA (minimum) at V_{GS}=10 V and $V_{GS(th)}$=1 V. Determine the drain current for V_{GS} = 5 V.

Example for D-MOSFET Drain Current

Problem 2: For a certain D-MOSFET, I_{DSS} =10 mA and $V_{GS(off)}$= − 8V
Is this an n-channel or a p-channel? Calculate I_D at V_{GS}=±3 V.

Example for Drain Current and V_{DS}

Problem 3: The datasheet for this E-MOSFET shows that I_D= 10 mA when V_{GS}=V_{DS}. Find I_D and V_{DS}.



Example for Drain to Source Voltage

Problem 4: Determine the drain-to-source voltage in the given circuit. The MOSFET datasheet gives $V_{GS(off)}$ = -8 V and I_{DSS} = 12 mA.