

EE 321 Lab
Prelab for Lab 9: MOSFET II

Read the lab before answering these questions.

1. For part 4 of this lab there are 2 different designs for the a circuit to turn on a lamp or other device. The N-channel-power FET acts like a on-off switch. The switch must be in series with the lamp. Thus the choice is whether the switch or the lamp is connected to ground; the other will be connected to the power supply.

- Draw both circuits.
- Find the drain and source voltages for the off condition. Find the necessary gate voltage for both circuits in this off condition.
- Find the drain and source voltages for the on condition. Assume V_{DS} is 0.1 V when on and a V_{GS} of 5 V is sufficient. Find the necessary gate voltage for both circuits in this on condition.
- Which circuit will work better for this lab?

© Copyright 2000 New Mexico Institute of Mining and Technology