

IEEE's Hands on Practical Electronics (HOPE)

Week 7 and 8: MOSFETs

Definitions:

MOSFET: Metal Oxide Semiconductor Field Effect Transistor

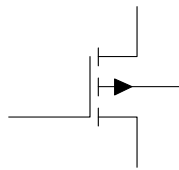
Transistor: A device which can be used as a voltage controlled current switch

Other acronyms:

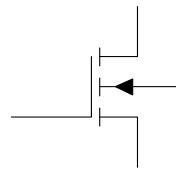
pFET, nFET, p-FET, n-FET, pMOS, nMOS, pMOSFET, nMOSFET

Symbolic representation:

PMOS:



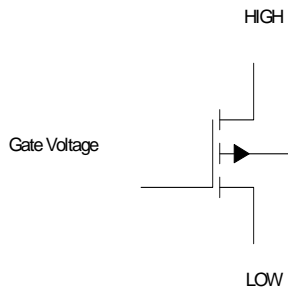
NMOS:



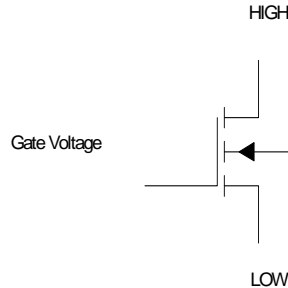
Usage:

If we connect the transistors as follows, one end to HIGH and one end to LOW, depending on the transistor type and the gate voltage, we will have current flowing or not. For the purposes of this course, if current is flowing, the transistor can be considered a short, and if there is no current, the transistor is an open circuit.

PMOS:



NMOS:



Type	Gate Voltage	Current?
PMOS	HIGH	no
PMOS	LOW	yes
NMOS	HIGH	yes
NMOS	LOW	no