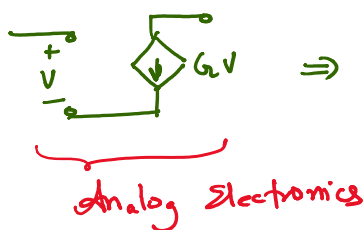
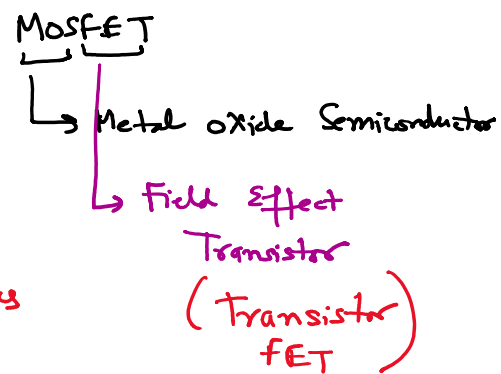
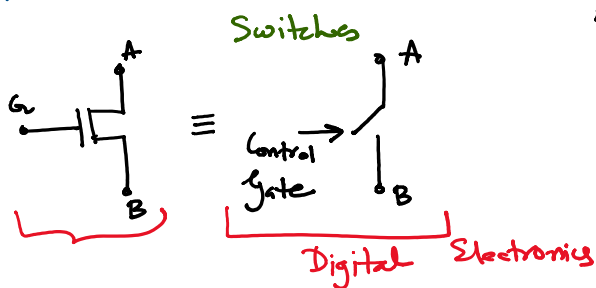


ECE 310- Lecture 14.

Wednesday, February 14, 2018 10:32 AM

Chapter 6: MOS Transistors Basics



Controlled Sources

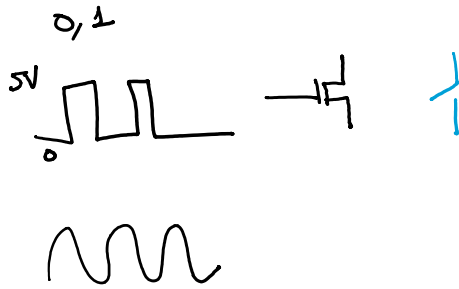
↳ Amplifiers

Filters



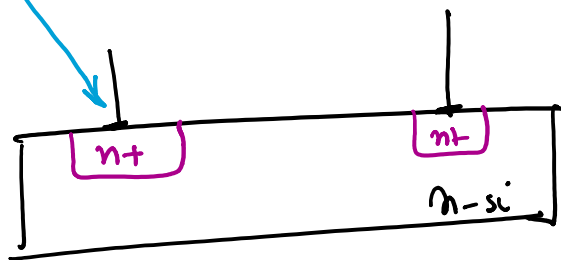
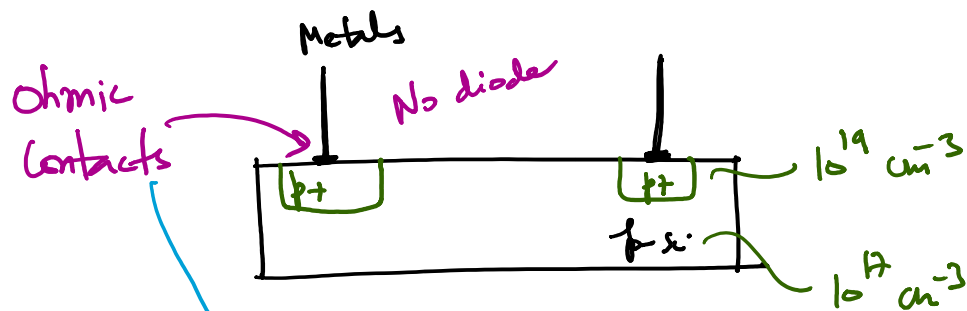
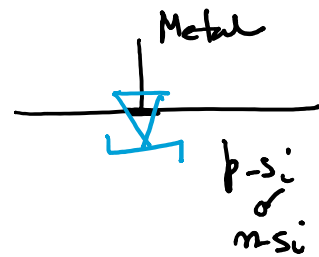
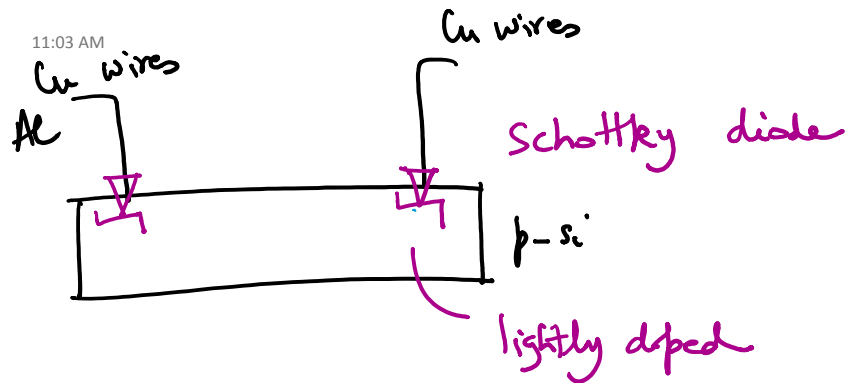
resistivity (conductivity) of this channel

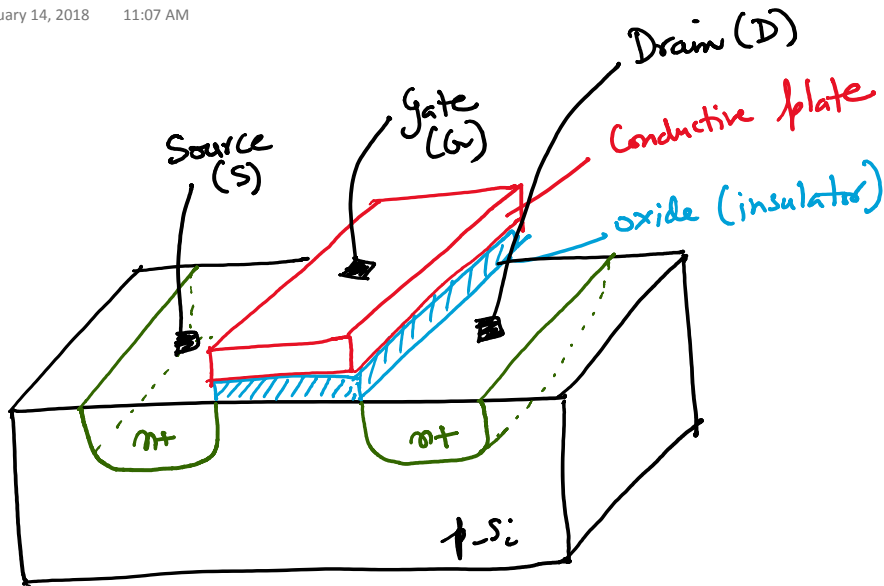
→ controlled by the gate voltage (V_i)



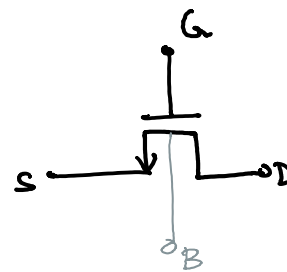
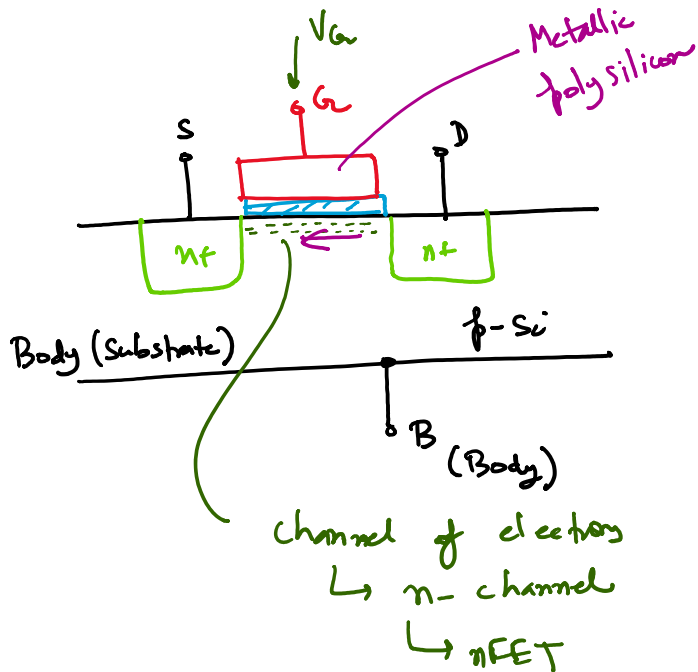
ps

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VLSI DESIGN
Spring 2019





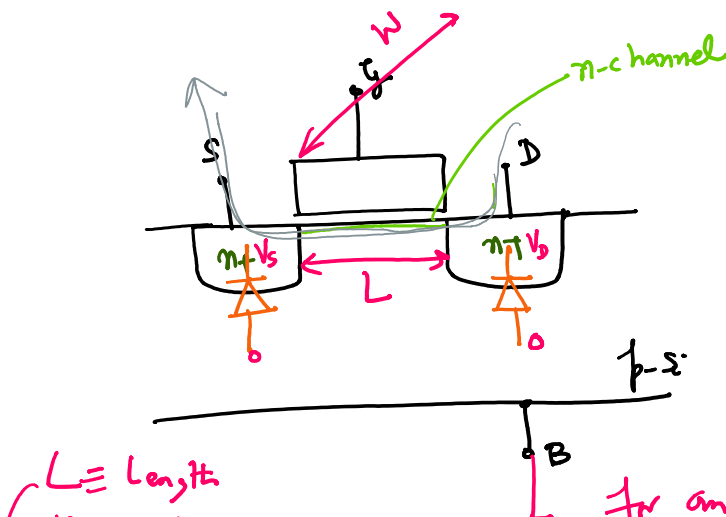
* D & S are ohmic contacts



n-channel MOSFET
NFET
NMOS

FET \Rightarrow field effect transistor

nMOSFET



Substrate Diodes

\Rightarrow Should always be reverse biased

for an NMOSFET (NFET)

$L \equiv \text{Length}$
 $W \equiv \text{width}$

$L \equiv 14\text{nm}$

$\downarrow B$

for an NMOSFET (nFET)
to the lowest voltage on the chip