

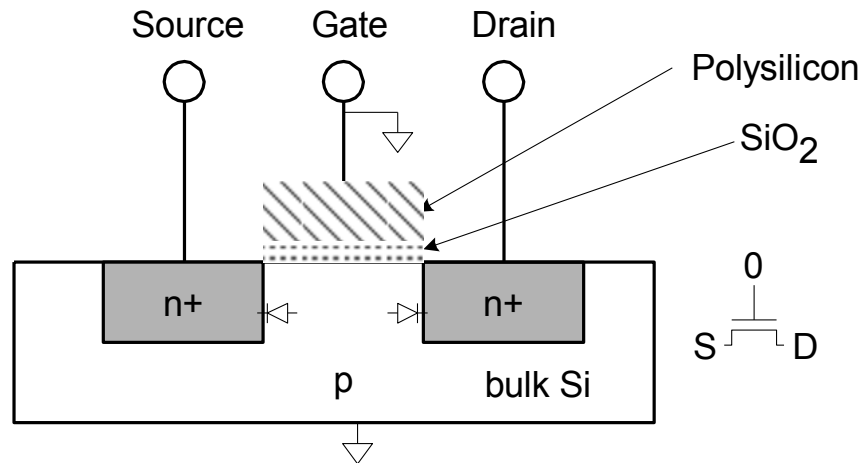
# UNIT-3

## Lecture-1

**An Overview of MOS, CMOS Logic Gate Circuits:  
Basic Structure CMOS realization of Inverters**

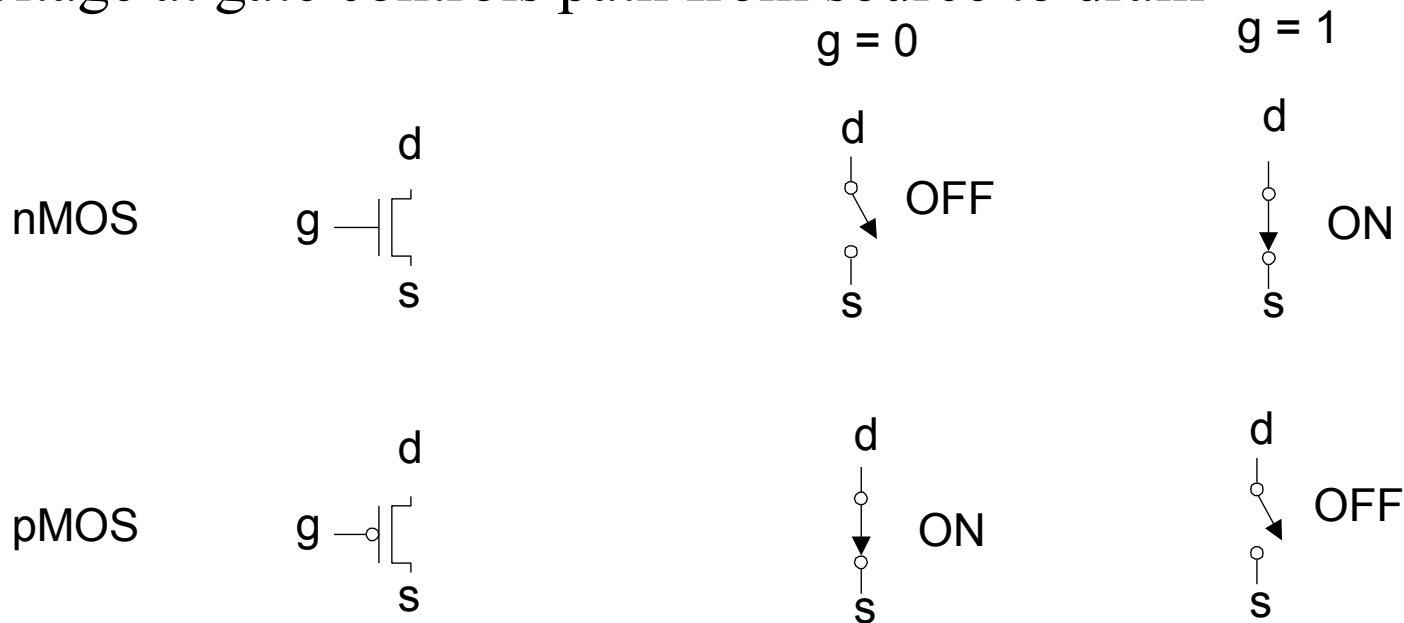
# nMOS Operation

- Body is commonly tied to ground (0 V)
- When the gate is at a low voltage:
  - P-type body is at low voltage
  - Source-body and drain-body diodes are OFF
  - No current flows, transistor is OFF



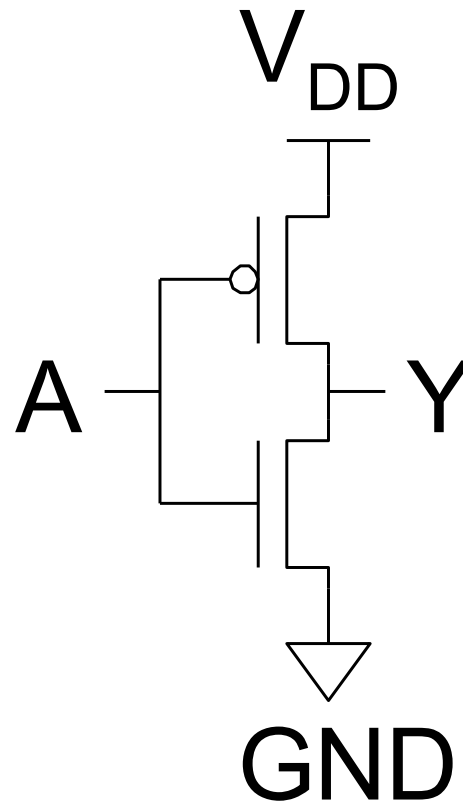
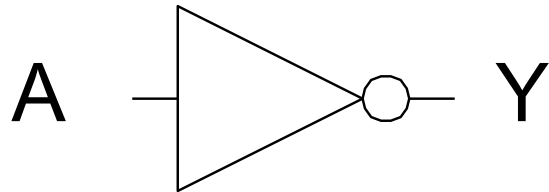
# Transistors as Switches

- We can view MOS transistors as electrically controlled switches
- Voltage at gate controls path from source to drain



# CMOS Inverter

A	Y
0	
1	



# Inverter Cross-section

- Typically use p-type substrate for nMOS transistors
- Requires n-well for body of pMOS transistors

