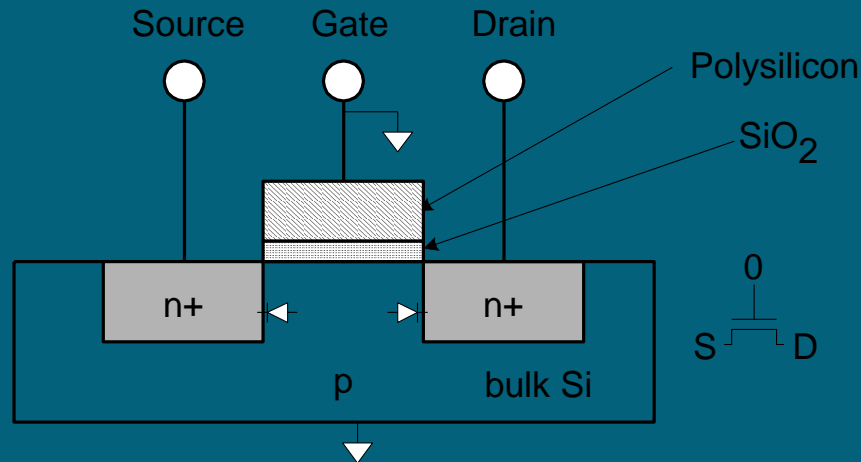


Chapter 14: CMOS Circuits

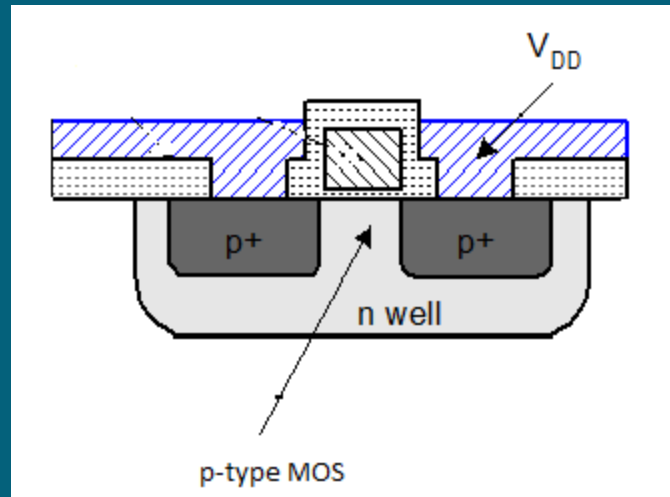
n-MOS

- 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



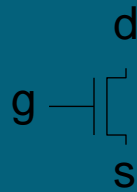
p-MOS

- p-type body
- Source and drain body

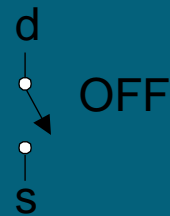


MOS Transistors as Switches

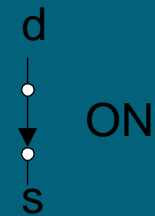
nMOS



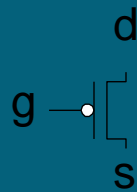
$g = 0$



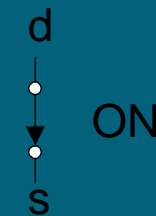
$g = 1$



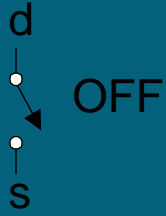
pMOS



$g = 0$

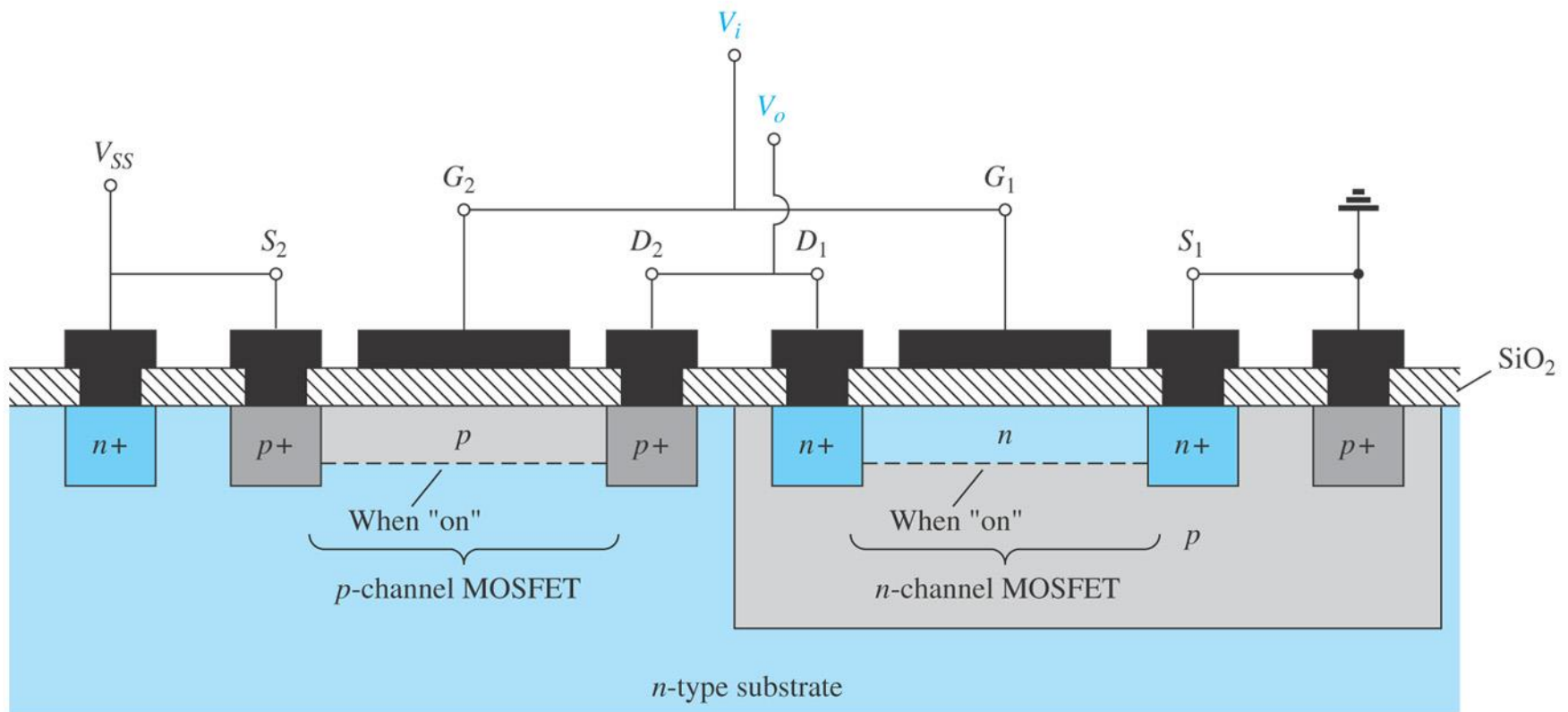


$g = 1$



CMOS Construction

p and n MOS transistors are joined
Typically use p-type substrate for n-MOS transistors
Requires n-well for body of p-MOS transistors



CMOS Inverter

