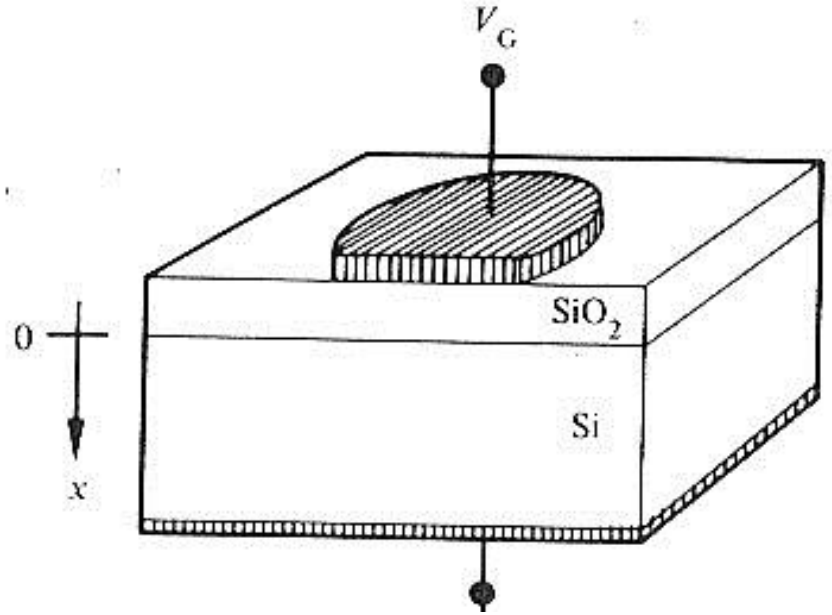
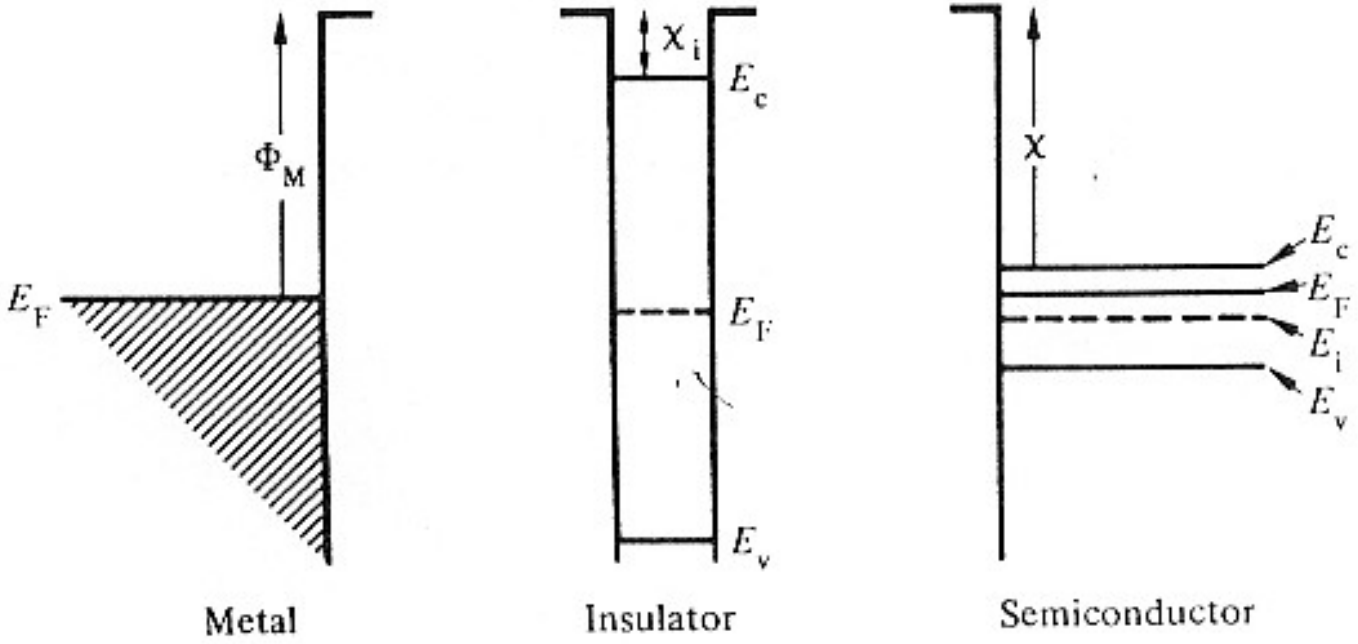
The MOS structure

The MOS structure



Band diagram



- Ideal case (E_F already at the same level)

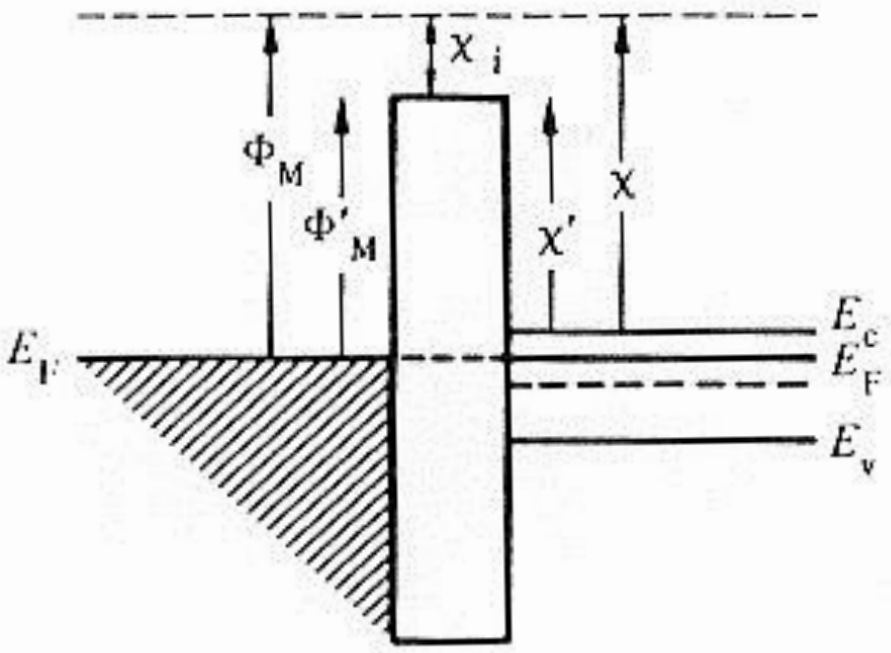


Fig. 2.3 Equilibrium energy band diagram for an ideal MOS structure.

- Example with Si-P

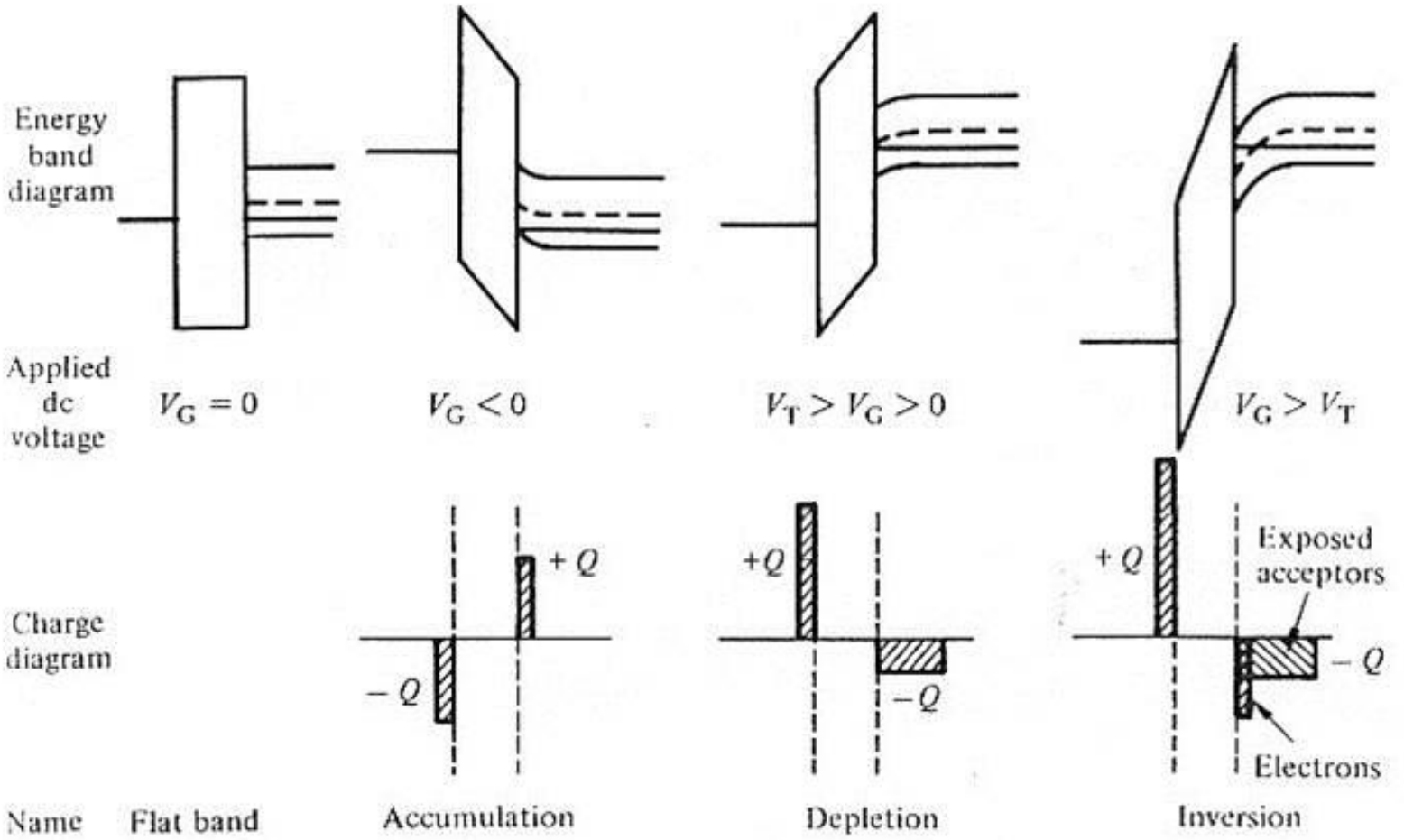


Fig. 2.6 Energy band and block charge diagrams for a *p*-type device under flat band, accumulation, depletion, and inversion conditions.

- Example with Si-N

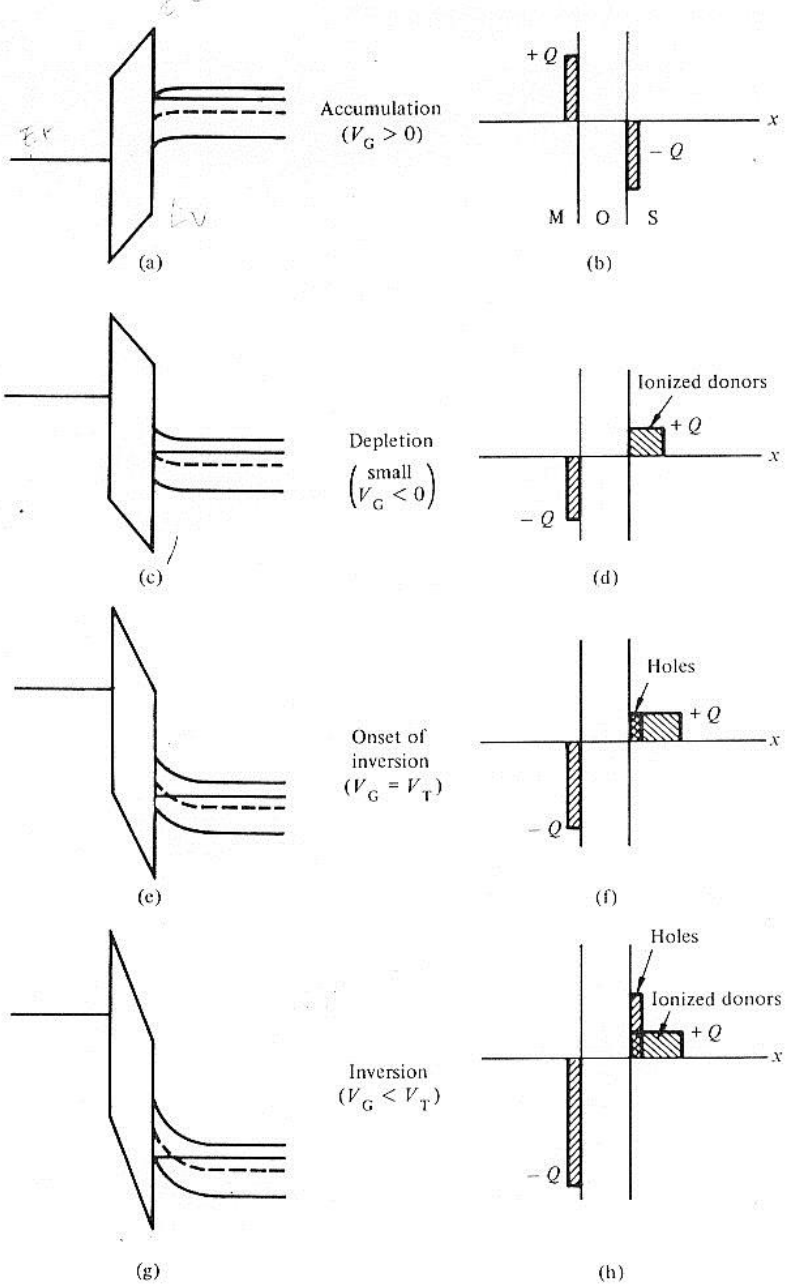


Fig. 2.5 Energy band diagrams and corresponding block charge diagrams describing the static state in an ideal *n*-type MOS-capacitor.

- If the Fermi levels are not aligned, even with V_G=0 the bands are bent
- Let us define V_{FB} as the V_G which flattens the bands; with V_G=V_{FB} we can repeat what we said for the ideal MOS, with V_G translated by V_{FB}.