

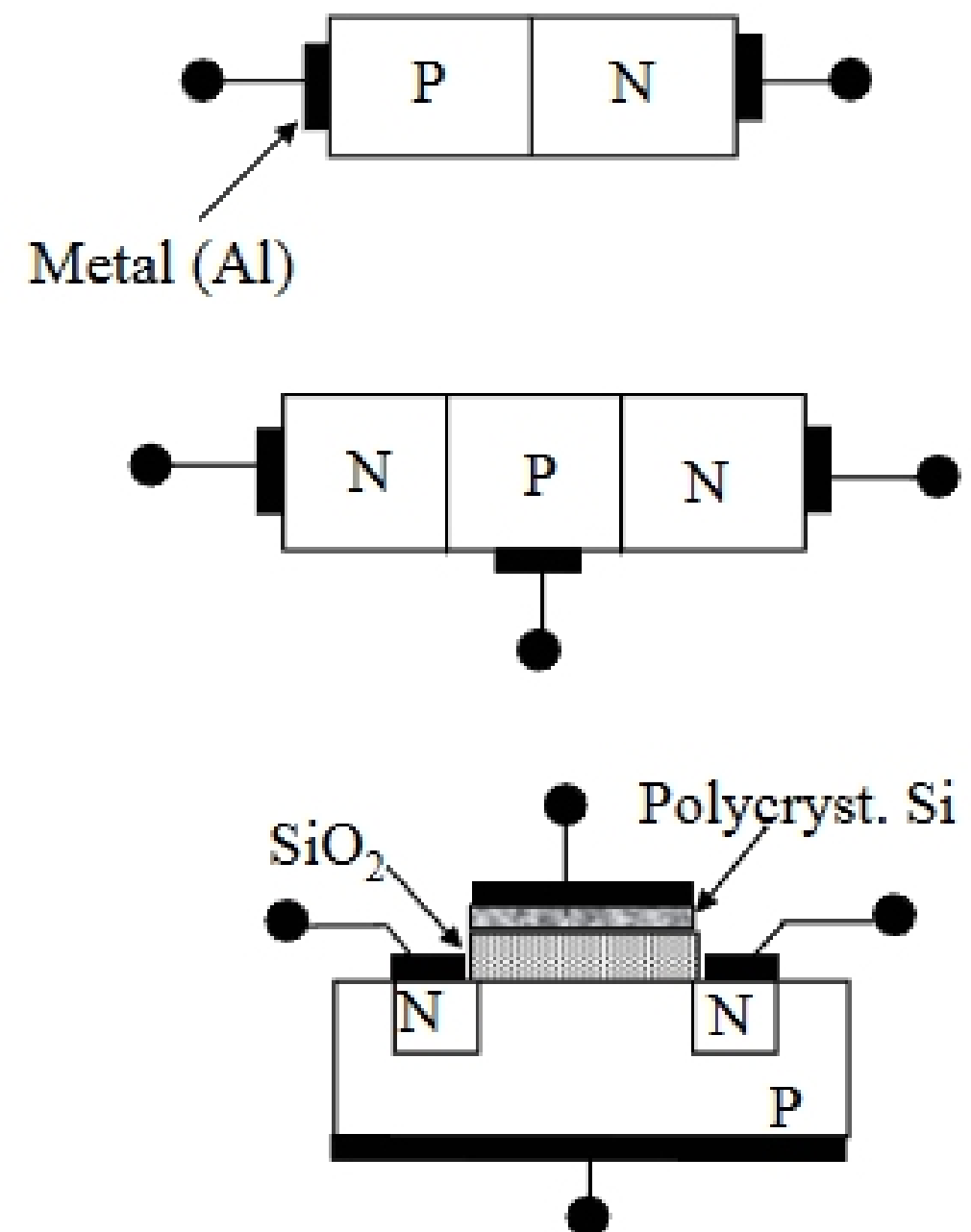
Fabrication Technology, Part I

- Agenda:
 - Microfabrication—Overview
 - Basic semiconductor devices
 - Materials
 - Key processes
 - Oxidation
 - Thin-film Deposition

📖 Reading: Senturia, Ch. 3 pp. 29-44.

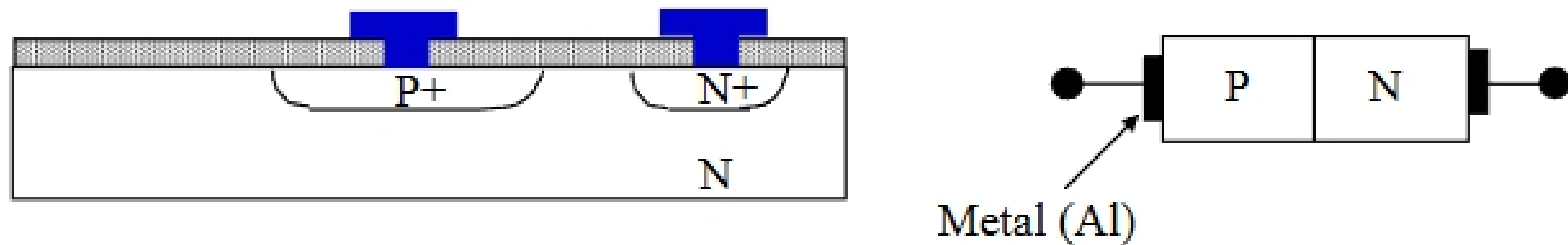
- P/N diode
- Bipolar junction transistor (BJT)
 - N/P/N
 - P/N/P
- Metal-oxide-semiconductor field-effect transistor (MOSFET)
 - n-channel (NMOS)
 - p-channel (PMOS)
 - complementary MOS (CMOS)

Idealized pictures



■ Diode

Planar Process



■ CMOS

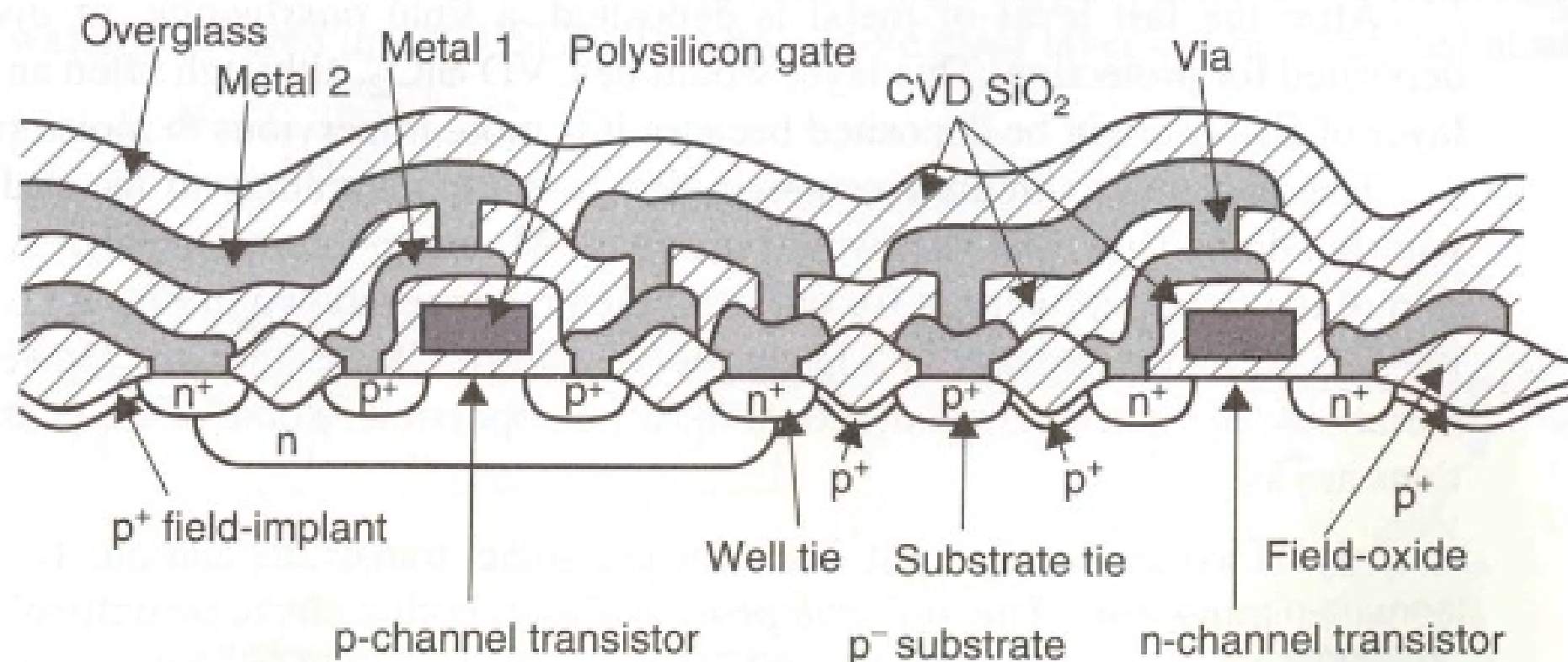


Fig. 2.11 Final cross section of an example CMOS microcircuit.

Johns and Martin, *Analog Integrated Circuit Design*