

5.1 BJT Device Structure and Physical Operation

Reading Assignment: *pp. 377-392*

Another kind of transistor is the **Bipolar Junction Transistor (BJT)**.

BJTs are **analogous** to MOSFETs in many ways:

1. They have three terminals.
2. They have three operating modes.
3. They are two "types".
4. They are made with *n*-type and *p*-type Silicon.

The two types of BJTs are *npn* and *pnp* (**analogous** to NMOS and PMOS).

A BJT is a "Silicon sandwich" -one type of Si sandwiched between two layers of the other.

→ The result is two p-n junctions.

HO: BJT Structures and Modes of Operation

HO: The npn BJT in the Active Operating Region

HO: The npn BJT in the Saturation

HO: The npn BJT in the Cutoff