

Figure 10.1 Schematic representation of the (a) *pnp* and (b) *npn* BJT showing device regions and the terminal designations.

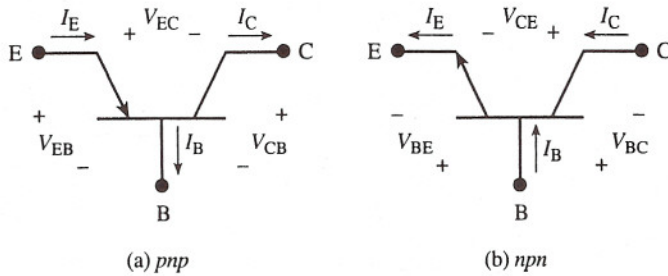


Figure 10.2 (a) *pnp* and (b) *npn* BJT circuit symbols. The d.c. terminal currents, voltages, and reference polarities are also noted in the figure.

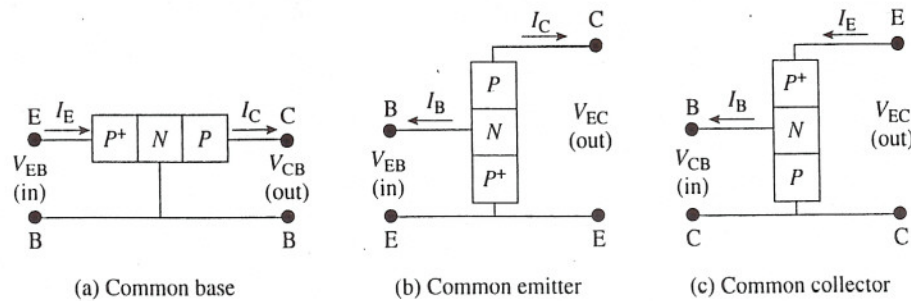


Figure 10.3 Circuit configurations: (a) common base; (b) common emitter; and (c) common collector.

Table 10.1 Biasing Modes.

Biasing Mode	Biasing Polarity E-B Junction	Biasing Polarity C-B Junction
Saturation	Forward	Forward
Active	Forward	Reverse
Inverted	Reverse	Forward
Cutoff	Reverse	Reverse

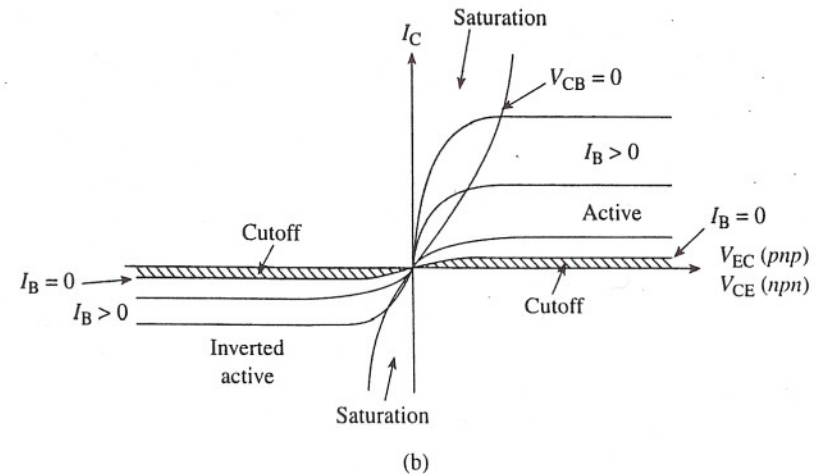
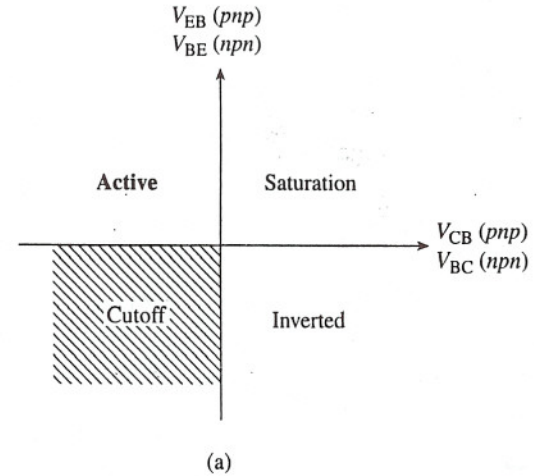


Figure 10.5 (a) Combinations of the BJT input and output voltages resulting in the four biasing modes. (b) Regions of the BJT common emitter output characteristics associated with the four biasing modes.

R.F. Pierret, "Semi-Dev-Fundamentals",
Addison-Wesley, 1996