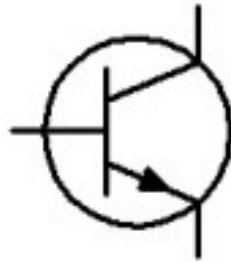




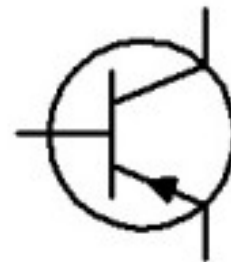
Solid State Electronics – Unit 9: Transistors

Bipolar Junction Transistor (BJT) Information

BJT Transistor symbols are drawn as follows:



NPN

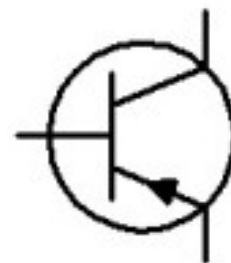


PNP

There are two types. The NPN and the PNP types.



NPN



PNP

To easily distinguish each the following rule can be used to remember each. The rule explains the direction of the arrow.

The NPN type: **Not** Pointing **iN**

The PNP type: **Pointing iN**



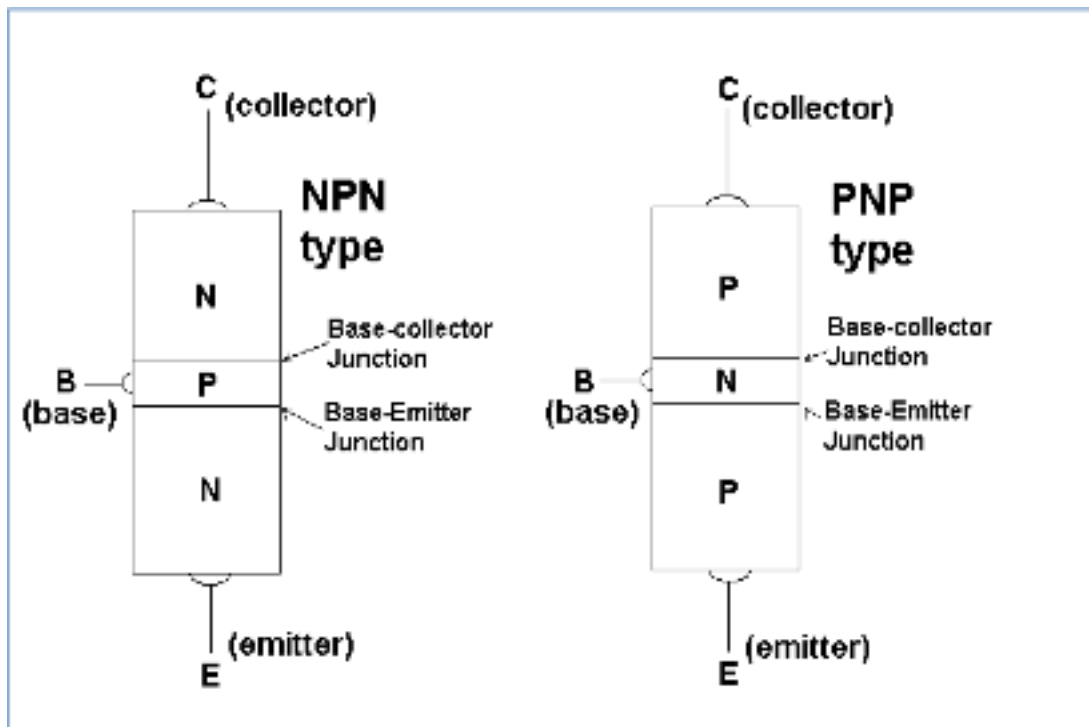


Solid State Electronics – Unit 9: Transistors

Bipolar Junction Transistor (BJT) Information

Both types of transistors are made up of two PN junctions.

Each section of the transistor has an electrical connection attached to it called a leg.



The legs are given the names: Emitter Base
Collector
as shown in the drawing.

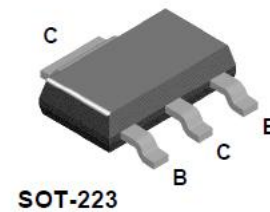
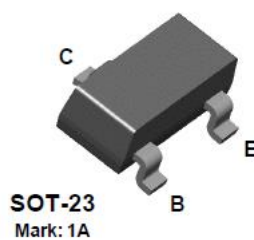
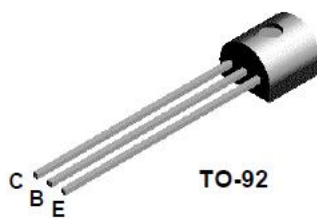
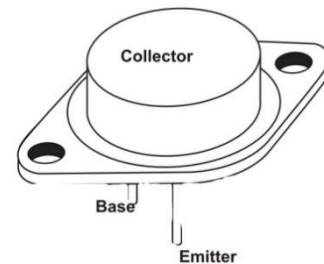
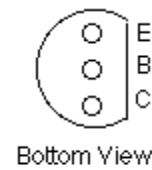
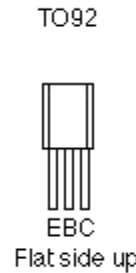
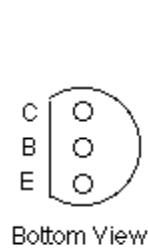
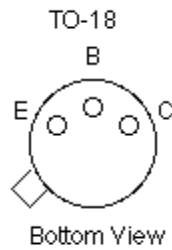




Solid State Electronics – Unit 9: Transistors

Bipolar Junction Transistor (BJT) Information

Different configurations for NPN BJT Transistor pin arrangements.



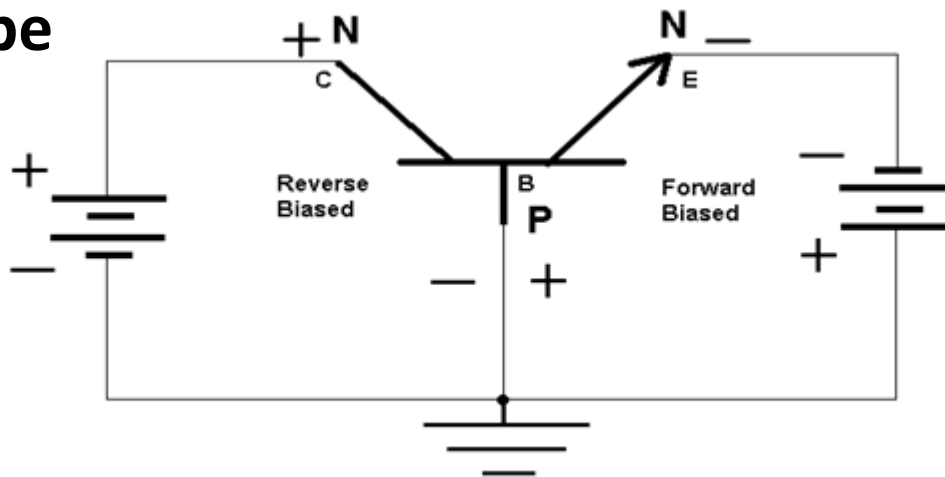


Solid State Electronics – Unit 9: Transistors

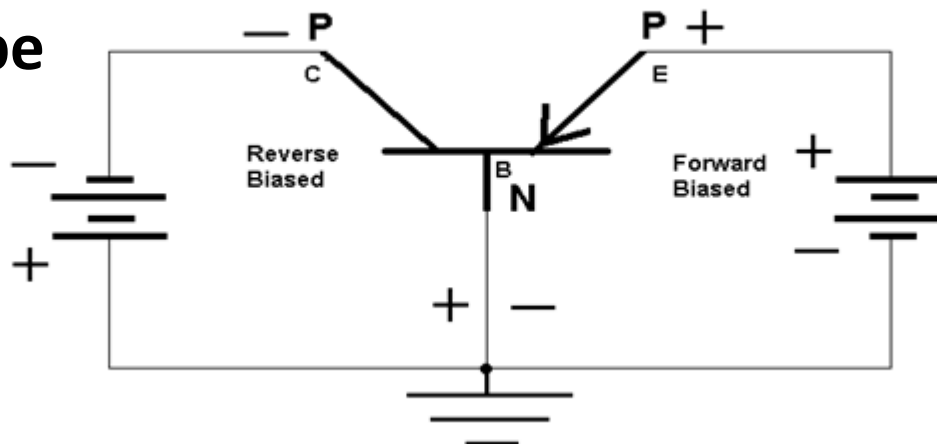
Bipolar Junction Transistor (BJT) Information

A transistor, just like a diode, must be biased correctly to operate. This means the base emitter junction must be forward biased and the base-collector junction must be reverse biased.

NPN Type



PNP Type



When a transistor is connected correctly, there are three different currents flowing in the transistor.





Solid State Electronics – Unit 9: Transistors

Bipolar Junction Transistor (BJT) Information

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