Examples of transistors

There are many types of transistors. We shall be looking at BIPOLAR transistors. There are two types, NPN and PNP. They come in many different packages, some shown above.

The transistor is an amplifying device. A small current flow through the base to the emitter of the transistor ($I_{BE}$) allows a large current to flow from the collector to the emitter ($I_{CE}$).

The difference between these currents is known as the transistors gain ($hfe$).

e.g. A transistor with a base current of 1mA and a gain of 100 will allow a current of 100mA to flow from the collector to the emitter.

$$I_{CE} = I_{BE} \times hfe$$
$$= 1mA \times 100$$
$$= 100mA$$