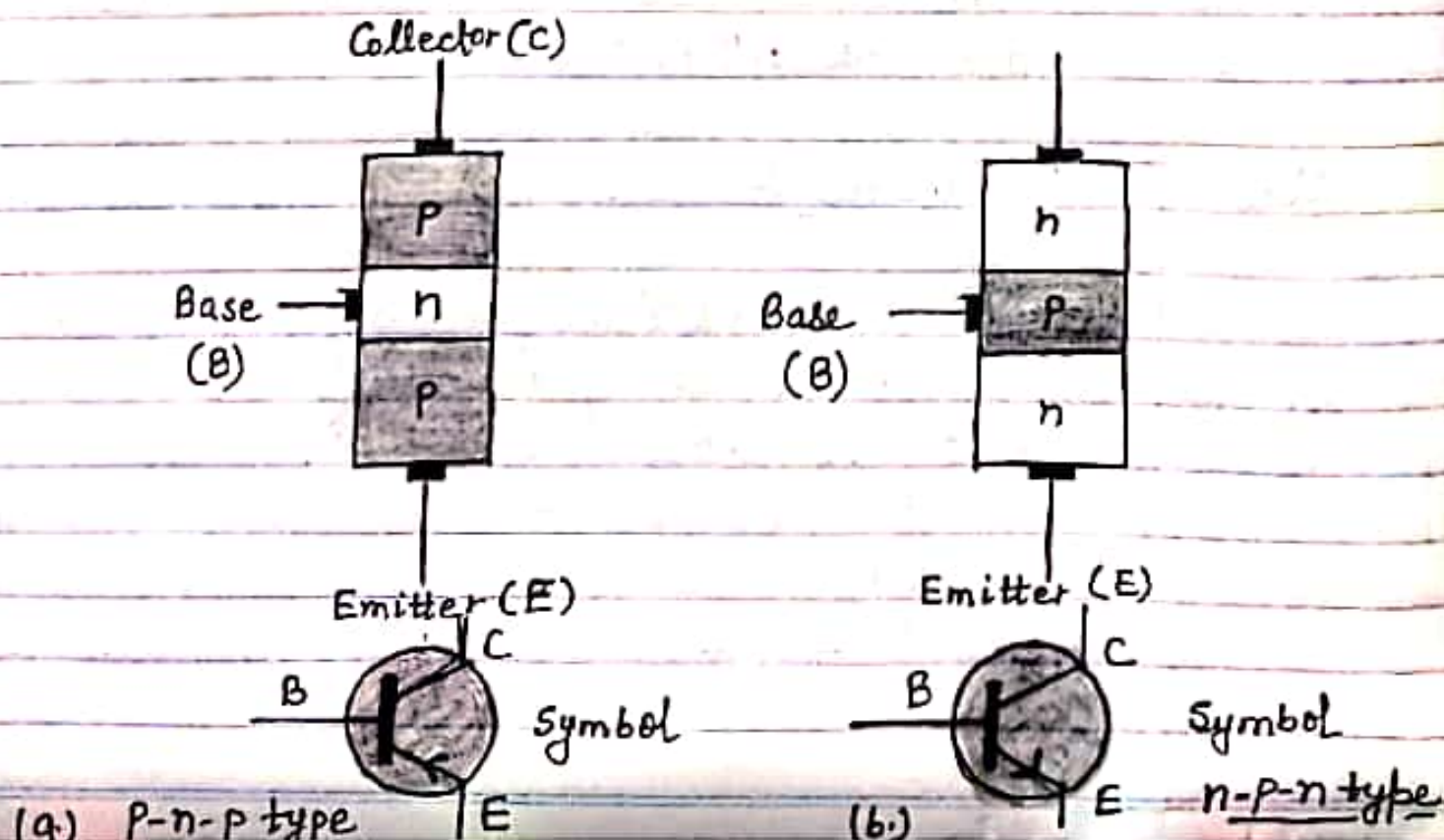


## Bipolar Junction Transistor (BJT)

A junction transistor is a semiconductor device obtained by growing either a very thin layer of n-type crystal between two much thicker p-type layers or a thin layer of p-type between two much thicker n-type layers.

(In a junction transistor, both majority and minority carriers are involved. These are, therefore, called bipolar devices or bipolar junction transistors or simply bipolar transistors).

The p-n-p and n-p-n transistors have been shown symbolically in fig. (a) and (b).



The first type is called p-n-p transistor and the second type is called an n-p-n transistor. The thin layer which is poorly doped is called the base (B) and the one of the outer layers heavily doped is called the emitter (E) and the other is called the collector (C). The emitter supplies the majority carriers (holes in case of p-n-p and electrons in case of n-p-n) for the transistor current flow and the collector collects the current for the circuit operation.

The base is the junction where the proper interaction between the emitter and the collector takes place.