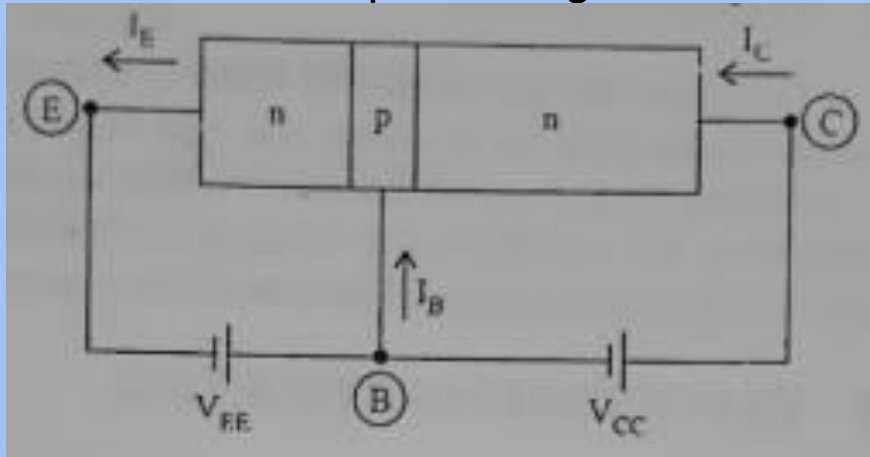


Working of BJT

Elementrix Classes

Working of BJT

- For proper working of BJT, emitter base junction is forward biased and collector base junction is reverse biased. The forward bias from base to emitter narrows the emitter base depletion region and the reverse bias from base to collector widens the collector base depletion region.



- When emitter base junction is forward biased, the majority carriers i.e. electrons from N-type emitter will get pushed towards the base junction. If the forward bias voltage is more than the threshold voltage (0.7 V for silicon transistor and 0.3 V for germanium transistor), the electrons will-flow into the base junction. Since the base region is very thin and lightly doped, very few of the electrons recombine with holes, This constitutes the base current(I_b).The carries left can easily cross the junction. Hence most of the electrons diffuse to the reverse biased collector base junction and constitutes the collector current (I_c).

□ Applying Kirchhoff's current law to the transistor,

$$I_E = I_B + I_C$$

पढ़िए और पढ़ाइये

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