

2.6 BASE WIDTH MODULATION OR EARLY EFFECT.

A change in the neutral base width will change the collector current as can be observed. A reduction in base width will cause the gradient in the minority carrier concentration to increase, which in turn causes an increase in the diffusion current. This effect is known as base width modulation; it is also called the Early effect.

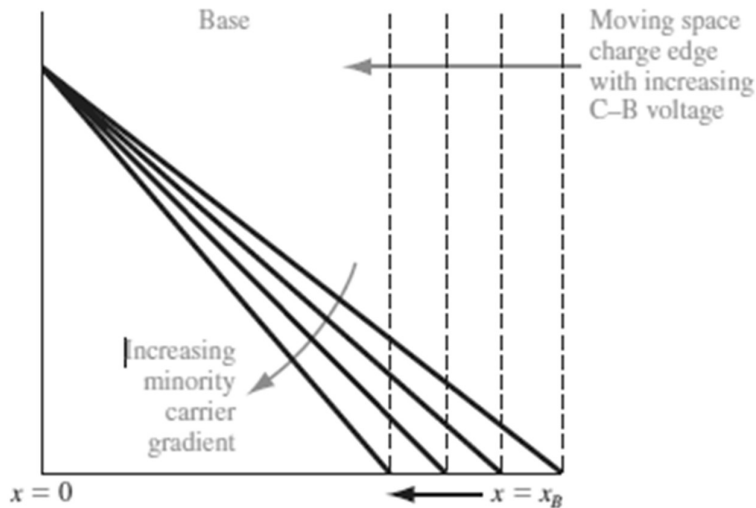


Fig:2.6.1 The change in the base width and the change in the minority carrier gradient as the B–C space charge width changes.
(Source : Semiconductor Physics and Devices)

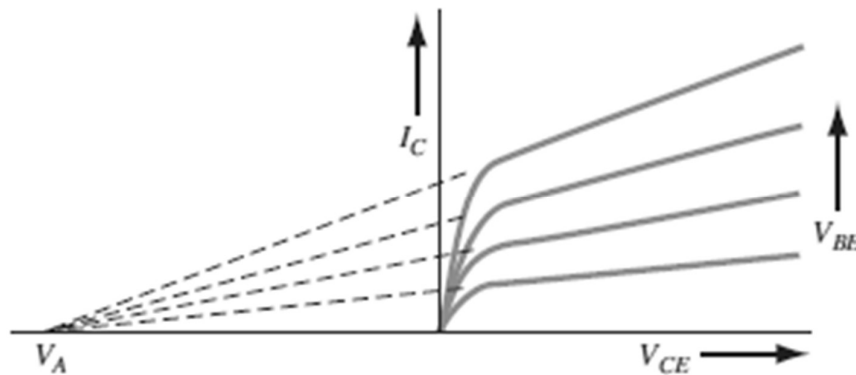


Fig:2.6.2 The collector current versus collector–emitter voltage showing the Early effect and Early voltage.
(Source : Semiconductor Physics and Devices)