Basic Electronics Engineering
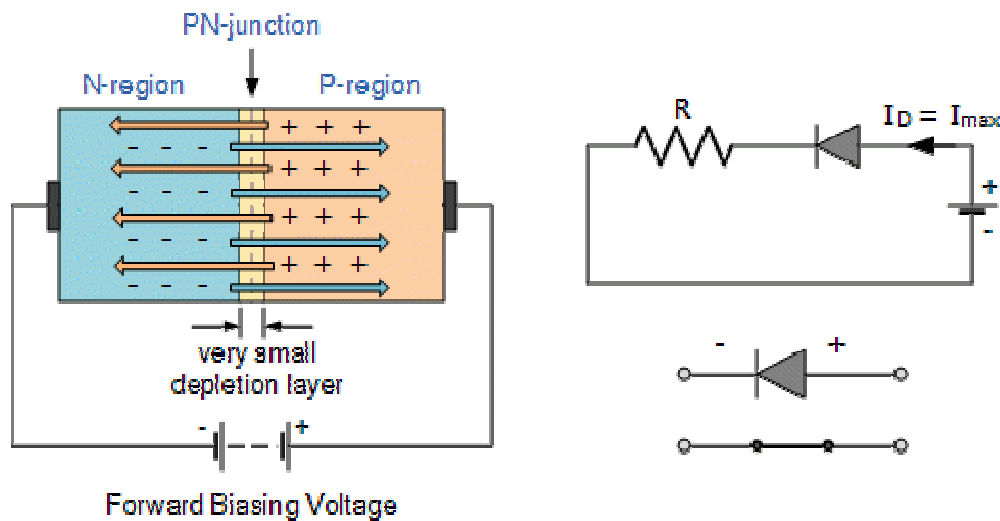
Bias: Application of external voltage across the two terminal

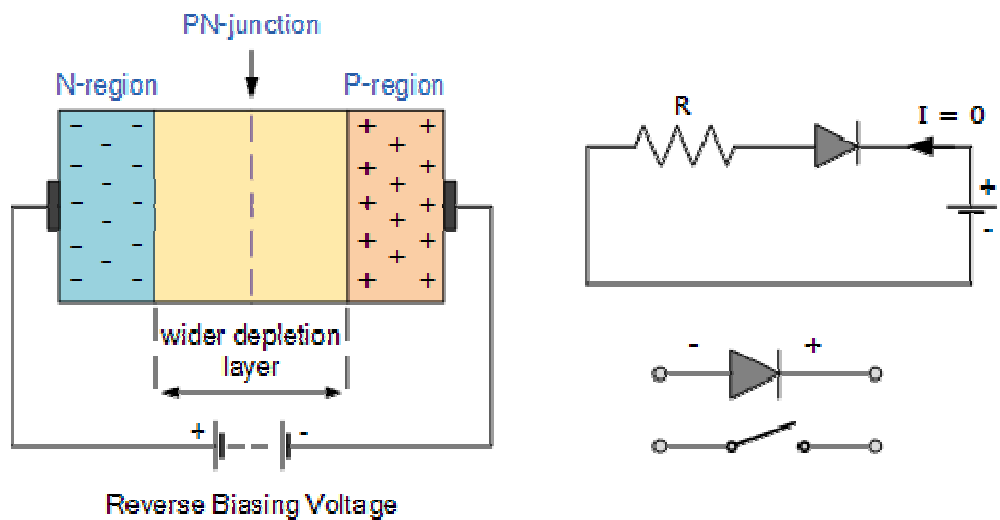i) No bias: Diffusion Current: Due to majority Charge carrier

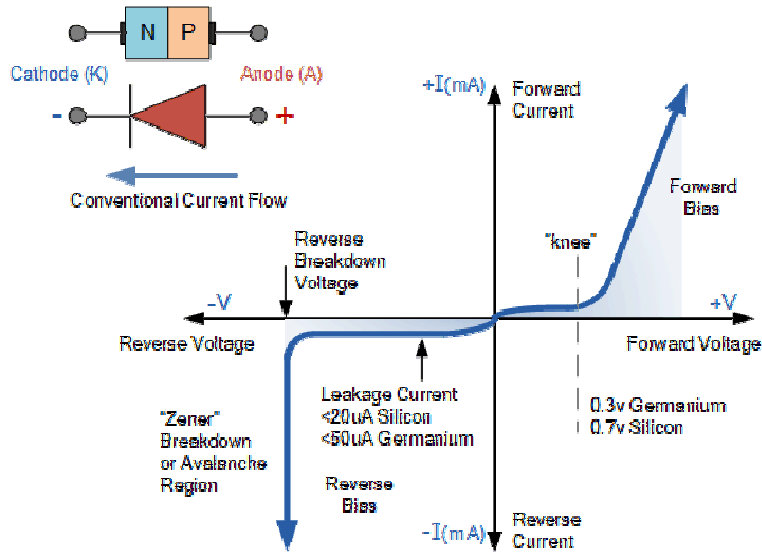Drift Current: Due to minority Charge carrier

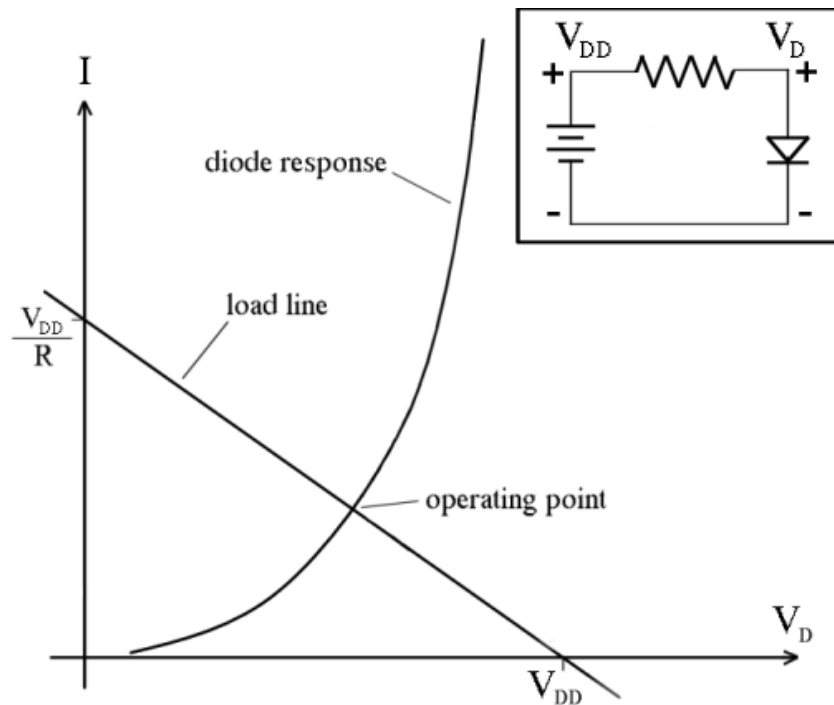Net Current = 0

ii) Forward Bias:

iii) Reverse Bias:

V-I characteristics of a diode:

Load line analysis:

$$+E - V_D - V_R = 0$$

$$\boxed{E = V_D + I_D R}$$

$$\boxed{I_D = \left.\frac{E}{R}\right|_{V_D = 0\,\text{V}}}$$

$$\boxed{V_D = \left. E \right|_{I_D = 0\,\text{A}}}$$