DIODE

INTRODUCTION :

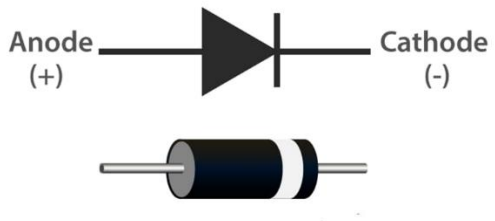
Fleming patened the first true theromic diode , on 16 November 1904.

Diode is an electrical component that allows the current flow in only one direction. Diode is popularly known as rectifiers because they can change the alternating current(A.C) into pulsating direct current(D.C) , diode also used in circuits to protect the circuit by limiting the voltage.

The most common diode are p-n junction diode this diode contain one n type material and secoand is p type material in n type material the electrons are the majority charge carrier and in the p type material the holes are the majority charge carrier.

Most of the diode allows current flow if the postiive voltage applied. When the diode allows the current flow in postive direction then the diode is in forward bias and when the diode didn’t flow the current then it is in a reversed bias and when the diode is in forward bias the it works as a conductor and when it is in reversed bias then it is in the condition of insulator.

DIODE SYMBOL :



In the above figure we can see the standard symbol of diode. In the above we can seen diode have two terminals one terminal in left

side is anode and another right side is cathode. The side of anode consist a arrowhead symbol which give a direction towards cathode. The arrowhead symbol represent the direction of current flow in the forward bias.

DIODE CONSTRUCTION :

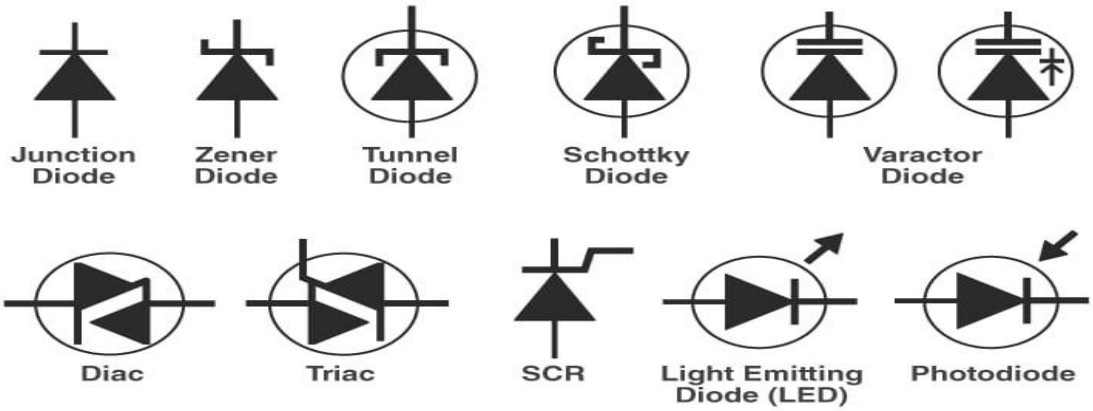
Diode is made by the semiconductors like silicon and the germanium. Diode is formed by the join of two type semiconductors n-type and p-type. The p type semiconductors conatin the postive charge carrier holes and the n-type semiconductors contains the negative charge carrier electrons. When the p-type semiconductors and the n-type semiconductors join with the battery then the phenomenon take place between the p-type and the n-type semiconductors in which the the electrons from n type and holes from the

p type collide with each other and a deplition layer formed between the the p type and the n type semiconductor then electron diffuse and occupies the hole in the p-type material.

TYPES OF DIODE :

THERE ARE SEVEN TYPES OF MAINLY DIODES.

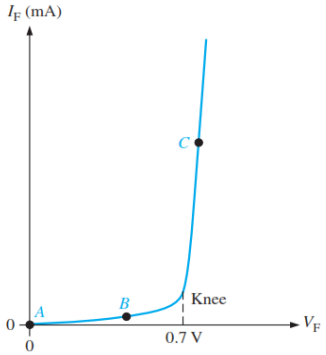
1. Light Emitting Diode
2. Laser Diode
3. Avalanche Diode
4. Zener Diode
5. Schottky Diode
6. Photodiode
7. PN Junction Diode



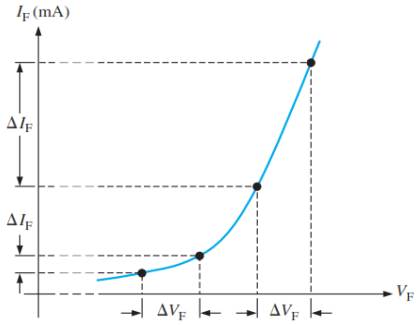
CHARACTERISTICS OF DIODE

The following are the main characteristics of the diode :

Forward Biased diode

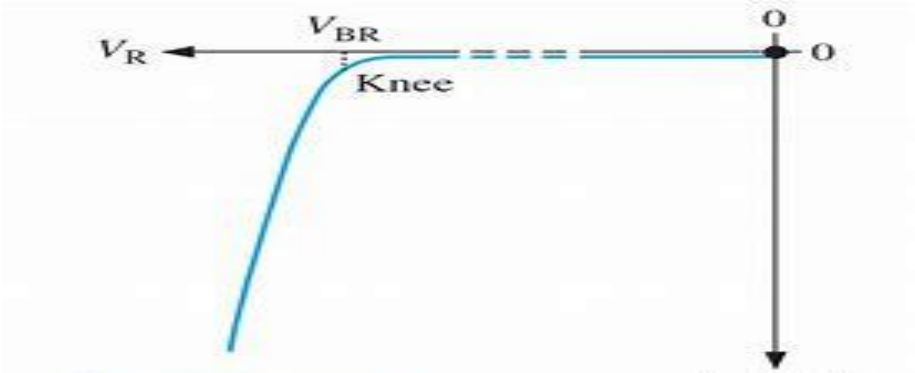


(a) *V-I* characteristic curve for forward bias.



(b) Expanded view of a portion of the curve in part (a). The dynamic resistance r'_d decreases as you move up the curve, as indicated by the decrease in the

REVRSE BIAS



Plagiarism Report: