SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE NAME : 19EE101-BASIC ELECTRICAL & ELECTRONICS ENGINEERING

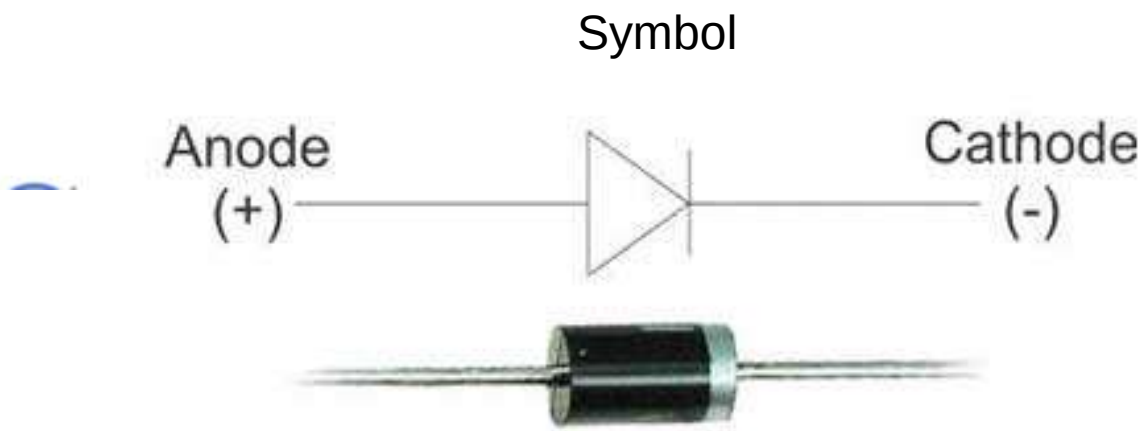
I YEAR /I SEMESTER MCT

Unit 3: Analog Electronics

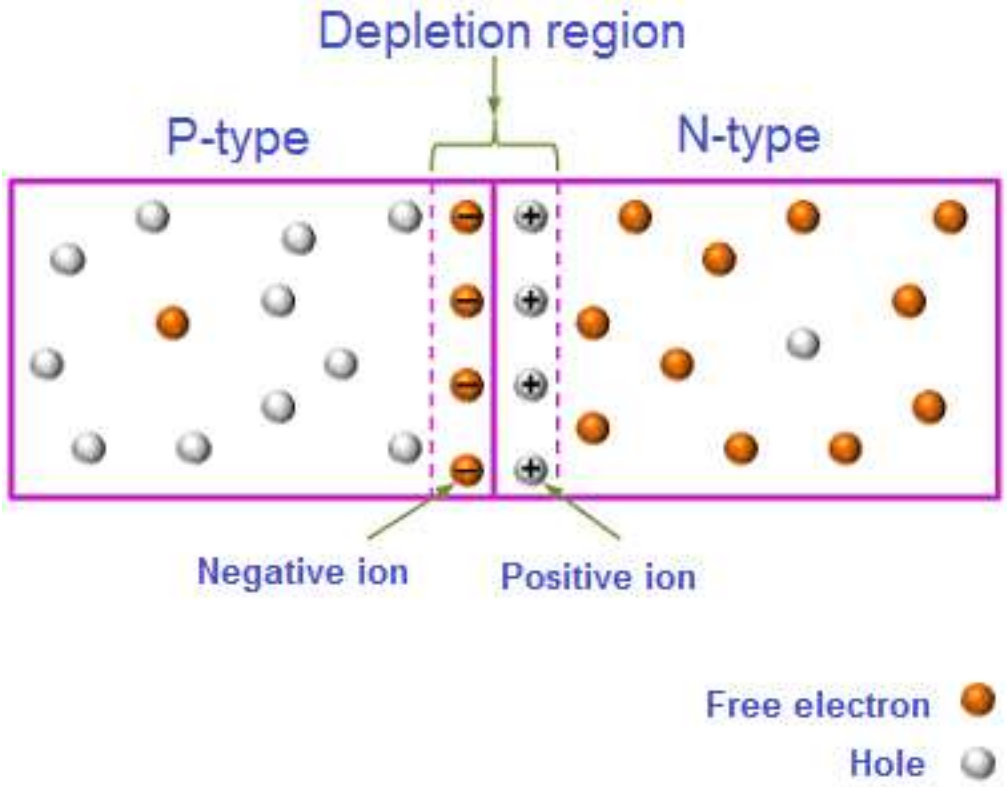
Topic : PN Junction Diode

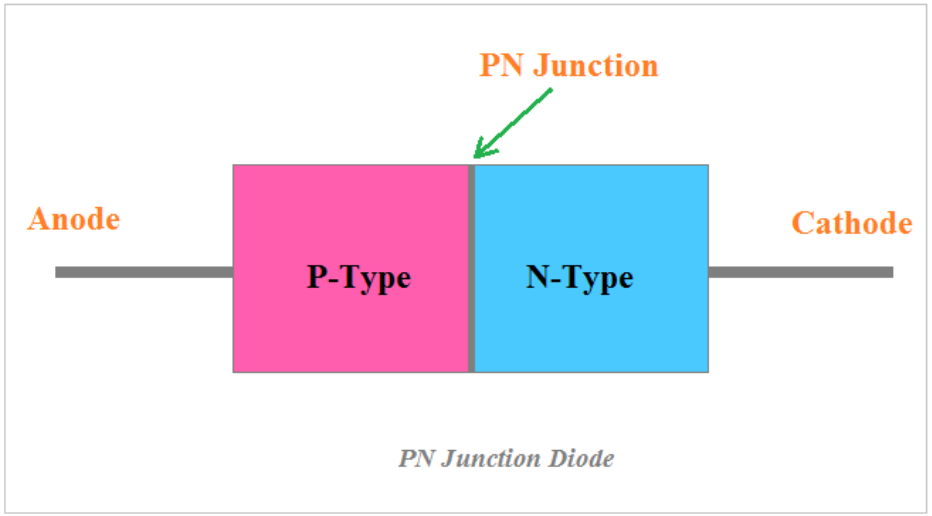
- ***"Di "= Two**, and "**Ode "= Electrodes** i.e a device or component having two electrodes viz Anode "+" (P) and Cathode "-" (N).*
- A diode is a two-terminal unidirectional power electronics device.
- The semiconductor diode is the first invention in a family of semiconductor electronics devices.
- After that many types of diodes are invented. But today also the most commonly used diode is a semiconductor diode.
- Generally, silicon is used to make a diode.
- But another semiconductor material like germanium or germanium arsenide is also used.
- A diode allows current to flow only in one direction and it blocks the current in another direction.
- It offers low resistance (ideally zero) in one direction and it offers a high resistance (ideally infinite) in another direction.

PN JUNCTION DIODE

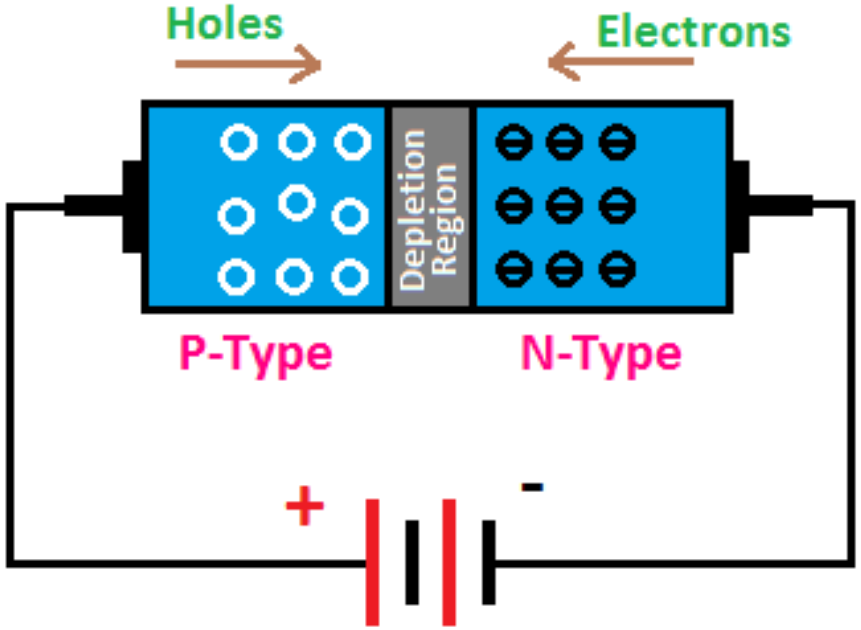


CONSTRUCTION OF PN JUNCTION DIODE

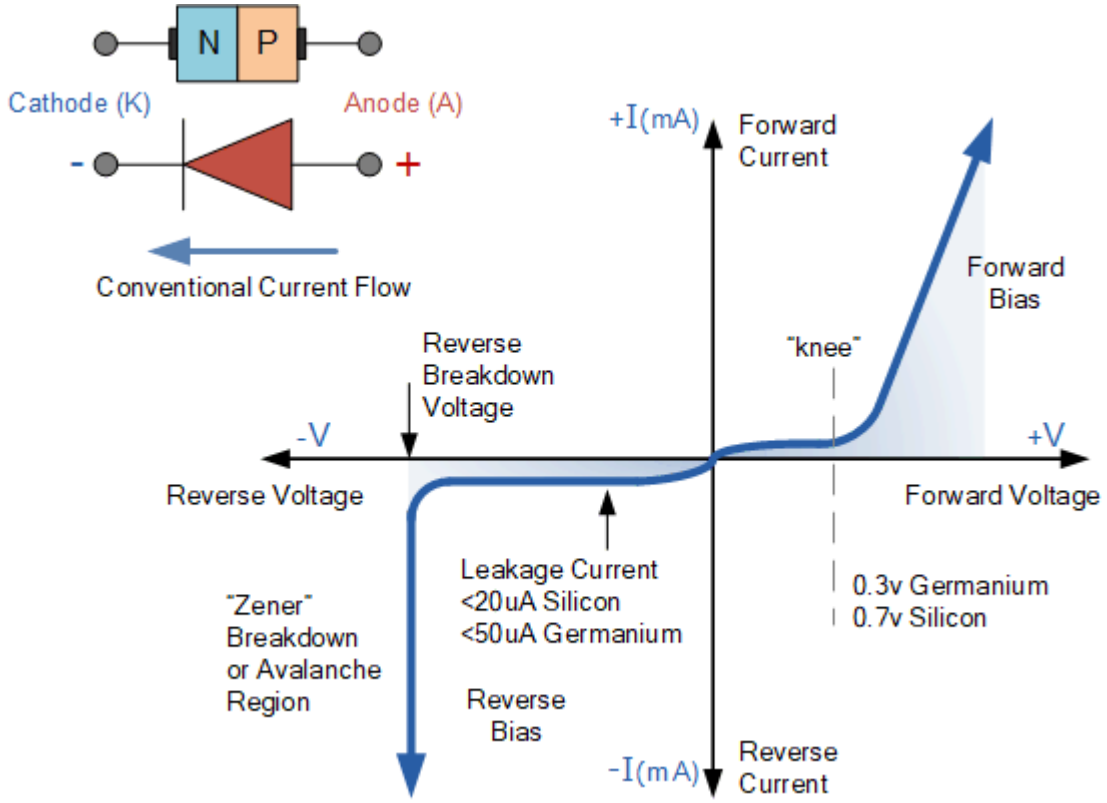




FORWARD BIASSING OF DIODE

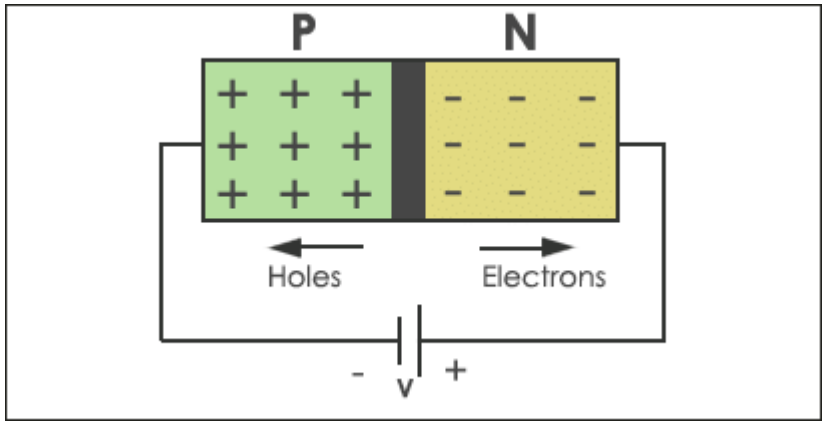


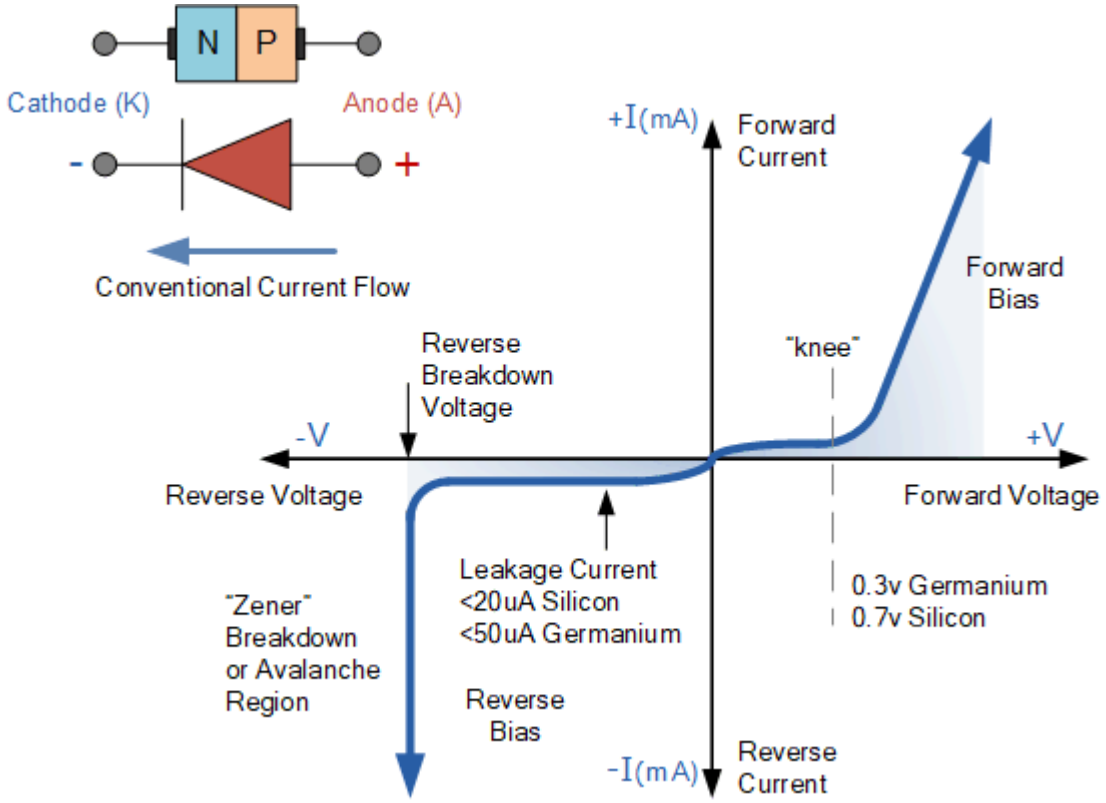
PN Junction Diode Forward Biasing



Forward Bias – The voltage potential is connected positive, (+ve) to the P-type material and negative, (-ve) to the N-type material

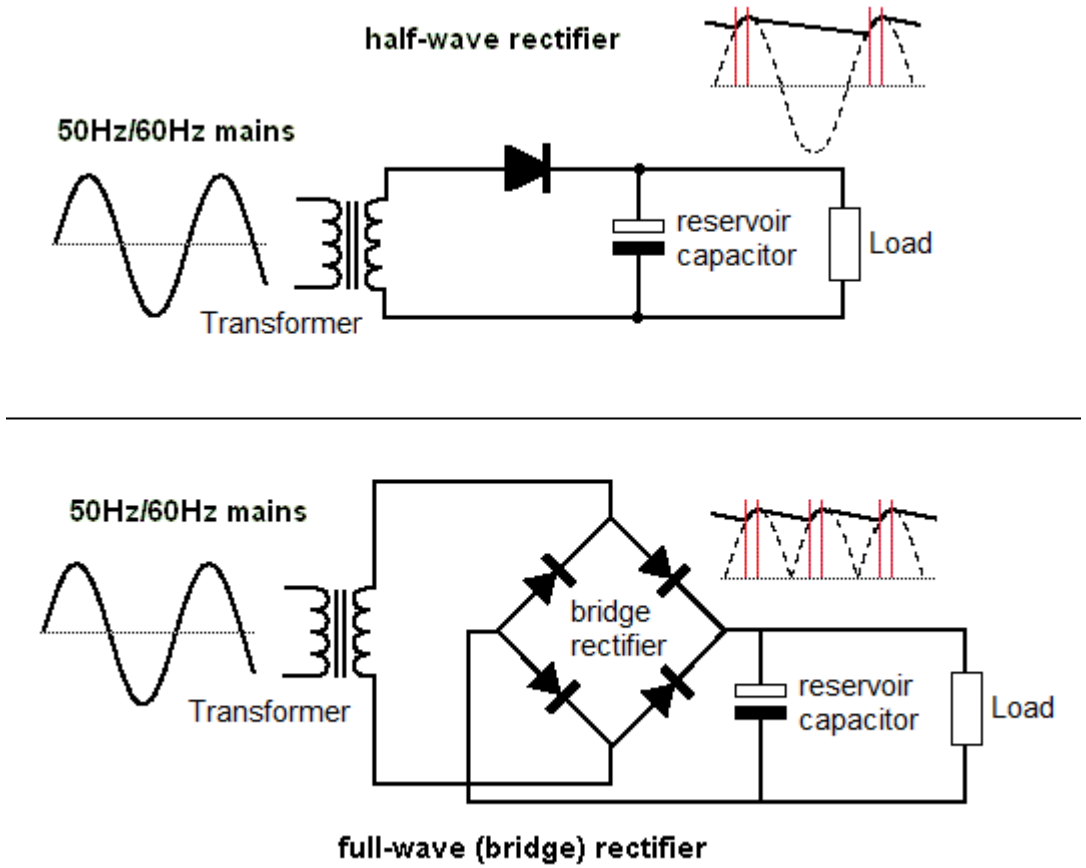
REVERSE BIASSING OF DIODE





Reverse Bias – The voltage potential is connected negative, (-ve) to the P-type material and positive,.

APPLICATIONS OF DIODE-RECTIFIER



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3. Mehta V K, Mehta Rohit, “Principles of Electrical Engineering and Electronics”, S.Chand & Company Ltd, (2010)- UNIT I and II
4. Mehta V K, Mehta Rohit, “Principles of Electronics”, S.Chand & Company Ltd, (2005)- UNIT IV and V

THANK YOU