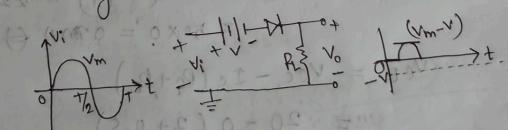
1. what is Semiconductor?

A Semiconductore molerial has an electrical conductivity value falling between that of a conductor, such as metallic Coppett, and and an insulator such as glass.

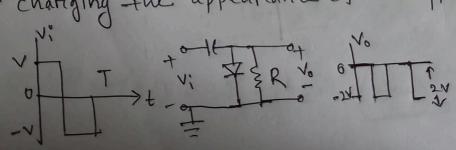
A covalent bond in a chemical bond that involves the sharing of electron pairs between atoms. These electron Paires are known as shared paires or bonding paires, and the stable balance of attractive and republive forces between atoms, when they share electrown, is known as

6 clipper circuit: elippers are networks that employ diode to "clip" away a portion of an input signal without distoring the remaining parct of the applied waveforem.



clampers circuit:

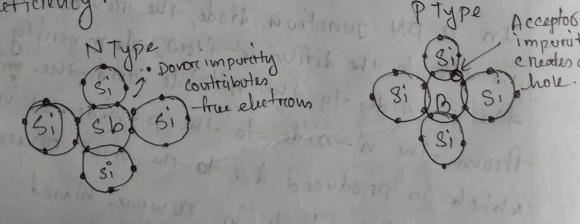
A clamper is a network constructed of a diode, a resistor, and a capaciton that shifts a waveform to a different de level without charging the appearcance of the applied signal.



9. ahat is remiconductor? How P-Type & N-Type Semi conductor is foremed?

Semiconductors are modercials which have a conductivity between conductors and non conductors or insulators. At absorbete zerro, Semicon ductores are perefect insulatores, the density of electrons in conduction band at troom tear percenture in not as high as in motals, thus can not conduct content an good as metal. The electrical conductivity of seus conductor is not as high as metal but also not as poor as electrical insulator.

Pentavalent importities importity atoms with 5 valence electrons produce n-type semiconductors by contributing extra electrons, Travalent importation importing atoms with 3 valence electrons produce p-type semiconductors by producing a "hole" 08 electron deficiency.



Acceptos importaty e neates a

short Northand was

A) F. How depletion layers in Jonned in projunction? ceheur a p-n junction in formed, some of the free electron in the n-rugion diffuse actions the Junction and combine with holes to form regative ions. In no doing they they leave behind positive ions at the donor sides.

PN Junction Differiou

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8. what is remove soturation connect? How it will be developed the saturation contract (or scale contract), more according The reverse saturation current, is that part of the teutre content in a semiconductor diode caused by diffusion of minorcity carties from the neutral region to the deplation region. This current is almost independ 07 the reverse voltage.

In a PN junction diode, the treverse solution cuttres in due to the diffusive from of minority electrous from the p-ride to the n-ride and the minorcity holes Arom the n-side to the p-side. It is a contrent which is produced due to the small reverse voltage whe pn junction diode in reverse biased.

Elow that a Zener diode can be used as a vottage regulator? Resistor, Rs is connected in Senies with the Zenen diode to limit the connect Mos Ahrough the diode with the voltage source, vs being connected across the combination. The Stabilised output voltage Vout is taken know a choss the Zenen diode. The lupply voltage is must be greater than vz. kinds: vottage from ses occiritus Vin (4) 1. c. 0 = conductoon Band C. B = conduction Band. Sonothing 1 2. V.B = valance Band 3. f.B = Forbidden 2. Conductor F. 0 = Eg (e.v) F. 0=0 element Thos islen

In graphical analysis of nonlinear electonic circuits, a load line in a line drown on the chanacteristic curive, a graph of the evrerent vs. the voltage in a nonlinear device like a diode on transistore. It regressions the constraint put on the voltage and content in the nonlinear device by the external circuit The load line, usually a straight line, the presents the response Of the linear part of the cincuit, connected to the nonliner device in question the points where the characteristic curve and the load live interprect are the possible operating point (s) (8 points) of the circuit, at these points the current and vo Hage parameters of both parts of the circuit was point to the circuit was parameters of both parts of the circuit was soperating point to the circuit of the circuit was soperating point to the circuit of the circuit was soperating point to the circuit of the circuit was soperating point to the circuit of the circ 1000t. 900000 BO = 100 XE = (1) XE a.c praise input: fac = 2 kms (ry + la) For a half- wave nectified wave, Irons = Info (Tat to) x (wit + 80) Rochitiere efficiency die output powers The efficiency will be mainiment of a comment and comput source. (Imply) & mic chows the material a spicionary as the and a sole and a spicionary as the and a spicionary as the area as t

AMBLA KHANUN CLA Semi conductor diode? 3. Load Line analysis of E FF RI HOOM TYPE 20 + L'aide characteristic 1 2 3 4 5 6 (V) The polarity of £ is such that diode is forward biased, discussed, the circuit can be determined approximately by assuming a constant diode forward voltage drop (VF). 6 ahat is PN Junction? Different mode of DN Junction? Ans: A PN Junction diode in a basic remiconductor deince anat controls the flow of electronic contrent in a circuit. It has a positive side (p) and negative side (N). To make a p-Njunction diode. Zerro Bian: No extermal vottage potential in applied to the PN Junction diode. Reverse Bias: the voltage potential is connected negative (-ve) to the ptype moternial and positive (+ve) to the N-type material actions the diode which has the effect of increasing the PN Junction diodes wid In. formand Bian: The voltage potential in connected positive (+ve) to the ptype material and negative (-ve) to the N of Decreasing the PN Junction diodes width.

a device, for example, me diffusion of carroies anode to cathode in a forward biared diode. (2) ahot in Zevin didde & drow the characteristic concret A Zever diode is a special type of diode designed to reliab ly allow contract to flow "backwards" when a cortain set reverse voltage, unown as the gener voltage, is reached. Short wolf No Finesand en bots sans of la Breakdown of Batto / sures Leavinge Contract Contract of increasing and Briconson AVALANCHE LURIUNT
LE REVERSE LOS CODOS DE LOS DELOS DE to the pringer waterday and regative ever of and Noine aboid age trong the diode which how recomming the pri sunction dioden width.