



Solid State Electronics – Unit 8: Zener Diodes and Voltage Regulation

Matching Electrical Terms Worksheet

Name: _____

The concept in which electric charge moves from the negative side of a supply to the positive side of the supply is called _____.

The concept in which electric charge moves from the positive side of a supply to the negative side of the supply is called _____.

The absence of an electron is a _____. They move in the direction opposite to electrons.

_____ – type semiconductors are produced by adding impurities with 5 valence electrons. This contributes extra electrons.

_____ – type semiconductors are produced by adding impurities with 3 valence electrons. This contributes to a deficiency of electrons.

The _____ is the amount of electromotive force necessary to start current flow through a P-N junction (diode). This voltage for a silicon diode is typically about .7v.

The _____ is an insulating region contained within a diode. The mobile charge carriers (electrons and holes) have been forced away by an electric field. The only elements left in the depletion region are ionized donor or acceptor impurities.





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In order to obtain proper operating conditions of semiconductors in circuits, certain predetermined voltages or currents must be established at various points in the electronic circuit. This principle is known as

_____.

An atom is made of _____, _____, and _____.

In the theory of atomic structure, the outer shell of electrons is called the _____.

_____ are created when a molecule gains a negatively charged electron.

_____ are created when a molecule loses a negatively charged electron.

The _____ is a subatomic particle. It has a negative electric charge

The _____ is a subatomic particle. It has a positive electric charge.

The _____ is a subatomic particle. It has no net electric charge.

_____ has three electrons in the outer or valence shell it is used to "dope" silicon to make it a P type material.

_____ has five electrons in the outer or valence shell it is also used to "dope" silicon to make N type material.





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A _____ describes a highly ordered structure, occurring due to the intrinsic nature of its constituents to form symmetric patterns.

If _____ are added to a semiconductor material, the electrical properties of the material can be modified.

The process of adding impurities to a semiconductor material to change the semiconductor material's electrical properties is called _____.

A _____ is one that may consume, but does not produce energy.

A _____ is a chemical bond that involves the sharing of electron pairs between atoms.





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