

How does light affect the electromotive force in a photocell?

The photons in the light, when they strike the free electrons, transmit the energy to the free electron and it moves forward, this develops a current and electromotive force in the photocell. The value of this electromotive force is dependent on the photons from the light.

What is the value of the photo-electromotive force produced by monochromatic light?

Q. In a p - n junction photo cell, the value of the photo-electromotive force produced by monochromatic light is proportional to The barrier voltage at the p-n junction. The intensity of the light falling on the cell. The frequency of the light falling on the cell. The voltage applied at the p-n junction.

How is photoelectromotive force proportional to intensity of light?

No. of produced electron hole pair depond upon no. of photons. So photo emf or current proportional to intensity of light. Hence, in a p-n junction photocell, the value of photoelectromotive force produced by monochromatic light is proportional to the intensity of light falling on cell.

How does a p-n junction photocell work?

In a p-n junction photocell, the free electrons or the carriers move forward due to the light falling on it. The photons in the light, when they strike the free electrons, transmit the energy to the free electron and it moves forward, this develops a current and electromotive force in the photocell.

What is the value of electromotive force?

The value of this electromotive force is dependent on the photons from the light. The more photons, higher will be the number of free electrons that will move. Hence the value depends on the intensity that is the number of photons of the light.

What is a photocell?

3.1. Work Principle and Basic Characteristics of Photocell Photodetectors, also called photosensors, are sensors of light or other electromagnetic radiation which are widely used in the digital camera, optical communication, solar cells and other fields, the photocell is a basic unit of semiconductor photoelectric detector.

The photocell is a PN junction photoelectric device which can convert light energy directly into electric energy without an additional bias voltage. According to the use of photocells they can be

Electromotive Force. When an individual charge flies through a magnetic field, a force is exerted on the charge and the path of the charge bends. In the case shown in the sketch below, the ...

????,???(??: electromotive force,??? EMF,?? ??)?? ...

Electromotive force is directly related to the source of potential difference, such as the particular combination of chemicals in a battery. However, emf differs from the voltage output of the device when current flows. The voltage across the ...

Electromotive Force or EMF is the work done by the per unit charge while moving from the positive end to the negative end of the battery. It can also be defined as the energy gain per unit charge while moving from the ...

Photocells, or photovoltaic (PV) cells, convert sunlight into electricity. Electromotive force (EMF) is the energy used to charge something, such as a battery or a ...

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The power of the photocell depends both on the temperature of the lattice current and on the temperatures of electrons and holes. In a photocell, the carrier temperature is

The definition of e.m.f. can also be expressed using an equation; Where E = electromotive force (e.m.f.) (V); W = energy supplied to the charges from the power source (J); ...

Electromotive force (emf) is a source of electric energy that provides a potential difference between two terminals, enabling the movement of charges through a conductor connected to ...

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