**Diodes: One-Way Streets for Electricity**

Imagine a one-way street. Cars can only go in one direction. A diode is like a one-way street for electricity. It only allows electricity to flow in one direction.

**How it works:**

A diode is made of two different types of semiconductor material. These materials are arranged in a way that allows electricity to flow easily in one direction but not in the other.

**Anode and Cathode:**

The two ends of a diode are called the anode and the cathode. The anode is the positive end, and the cathode is the negative end. Electricity can flow from the anode to the cathode, but not the other way around.

**Uses of Diodes:**

Diodes have many uses in electronics, including:

- **Rectifying AC current:** This means turning alternating current (AC) into direct current (DC).
- **Protecting circuits from voltage spikes:** Diodes can be used to prevent damage to electronic components from sudden voltage surges.
- **Creating simple circuits:** Diodes can be used to create simple circuits, such as LED circuits.

**In summary:**

Diodes are essential components in many electronic devices. They allow electricity to flow in only one direction, which is important for many electronic circuits.

What is a diode and how does it work?

Diode Module | How does it work?

What is a Schottky Diode? How Schottky Diodes Work? Where to Use? ( Schottky Diode Tutorial)

How does a diode work - the PN Junction (with animation) | Intermediate Electronics