

# Encyclopedia of Electronic Components: Volume 1

Electronic components are the building blocks of modern technology. They are used in everything from computers and smartphones to cars and airplanes. Without electronic components, our world would be a very different place.



## Encyclopedia of Electronic Components Volume 1: Resistors, Capacitors, Inductors, Switches, Encoders, Relays, Transistors by Charles Platt

★★★★☆ 4.7 out of 5

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Screen Reader : Supported  
Enhanced typesetting : Enabled  
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The Encyclopedia of Electronic Components is a comprehensive guide to the most essential electronic components. Volume 1 covers transistors, diodes, resistors, capacitors, and inductors. These components are the foundation of electronic circuits, and understanding their functions is essential for any electronics enthusiast or professional.

## Transistors

Transistors are semiconductor devices that can amplify or switch electronic signals. They are used in a wide variety of applications, including amplifiers, oscillators, and digital circuits.

Transistors have three terminals: the emitter, the base, and the collector. The emitter and collector are connected to the power supply, and the base is used to control the flow of current between the emitter and collector.

The type of transistor (NPN or PNP) determines how it is biased. NPN transistors are biased with a positive voltage on the emitter and a negative voltage on the collector. PNP transistors are biased with a negative voltage on the emitter and a positive voltage on the collector.

## **Diodes**

Diodes are semiconductor devices that allow current to flow in only one direction. They are used in a variety of applications, including rectifiers, voltage regulators, and logic gates.

Diodes have two terminals: the anode and the cathode. The anode is connected to the positive terminal of the power supply, and the cathode is connected to the negative terminal.

The type of diode (silicon or germanium) determines its forward voltage drop. Silicon diodes have a forward voltage drop of about 0.7 volts, while germanium diodes have a forward voltage drop of about 0.3 volts.

## **Resistors**

Resistors are used to limit the flow of current in an electronic circuit. They are made from a variety of materials, including carbon, metal, and ceramic.

Resistors have two terminals: the anode and the cathode. The anode is connected to the positive terminal of the power supply, and the cathode is connected to the negative terminal.

The resistance of a resistor is measured in ohms. The higher the resistance, the less current will flow through the resistor.

## **Capacitors**

Capacitors are used to store electrical energy. They are made from two conductive plates separated by an insulating material.

Capacitors have two terminals: the positive terminal and the negative terminal. The positive terminal is connected to the positive terminal of the power supply, and the negative terminal is connected to the negative terminal.

The capacitance of a capacitor is measured in farads. The higher the capacitance, the more electrical energy the capacitor can store.

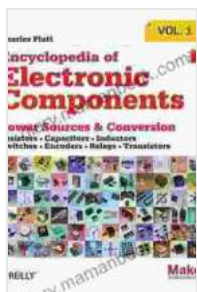
## **Inductors**

Inductors are used to store magnetic energy. They are made from a coil of wire wrapped around a core of iron or ferrite.

Inductors have two terminals: the anode and the cathode. The anode is connected to the positive terminal of the power supply, and the cathode is connected to the negative terminal.

The inductance of an inductor is measured in henrys. The higher the inductance, the more magnetic energy the inductor can store.

The Encyclopedia of Electronic Components is a valuable resource for anyone who wants to learn more about the essential electronic components. Volume 1 covers transistors, diodes, resistors, capacitors, and inductors. These components are the foundation of electronic circuits, and understanding their functions is essential for any electronics enthusiast or professional.



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