

Resistor Symbols

Resistors are passive devices; they require no source of power or amplification, they only attenuate or reduce the voltage passing through them. This reduction of voltage, due to resistance to the flow of electrons that pass through it, results in electrical energy being lost in the form of heat.

Power levels are varied to prevent the heat from burning up the resistor. A resistor's ability to lose heat depends to a large extent upon its surface area. Large areas can dissipate more heat.

TYPES OF RESISTOR

Resistors are available in many different packages and made from different materials. Three of the main resistor types are the Carbon Composite Resistor, the Film Resistor and the Wirewound resistor.

a. Carbon Composite Resistors

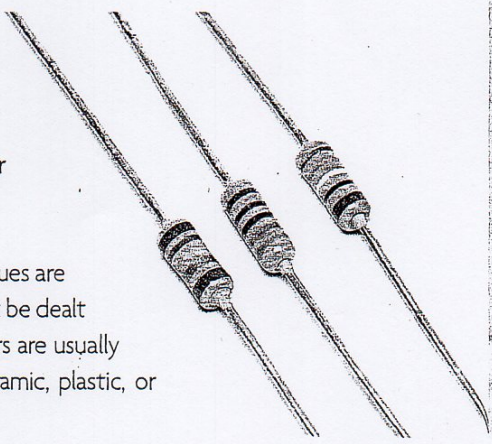
At the core of the CCR resistor is a solid cylindrical resistive element, the chemical composition of which is altered to produce different resistance values. The general composition consists of a resistive element which is made up of carbon and ceramic. By altering the ratio of filler to conductor we can change the resistance value.

b. Film Resistors

The film-type resistor is now the preferred type for most electronic applications due to its superior performance. A film resistor consists of a resistance element where a thin layer, a film, of conductive material is deposited on a glass or ceramic form.

c. Wirewound Resistors

Wirewound resistors are used when exact values are needed or when larger amounts of heat must be dealt with (more than 2 watts). Wirewound resistors are usually made by winding a metal wire around a ceramic, plastic, or fibreglass core.



- How does a diode control current?
- What is capacitance measured in?
- Which component delivers current when a certain voltage range is applied to it?
- Which component controls or limits the flow of current?
- Which groups are capacitors usually classified into?
- What does a resistor's ability to lose heat depend on?