

Different types of resistors



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Different Types of Resistors Electrical engineering involves the study and development of different electrical technologies, which are used for different purposes. One device that is very common in engineering and in electrical engineering is a resistor. A resistor is nothing but a special electrical component that helps in the induction of electrical resistance in a given electrical circuit. The resistors can be made up of different elements and different materials and it depends on the applied voltage and the applied current.

No electric circuit can be complete without the use of resistors in them. The specifications of the resistors however depend on the conduction of the current. We would talk about some of the commonly used resistors. Carbon composition resistors are among the most commonly used resistors, which usually consist of a special cylindrical resistive element. The resistive element is usually made up of wire leads or metal end caps that help in providing resistance to the flow of current.

These resistors are used only in expensive equipments and circuits because these are quite costly as compared to other resistors. When the carbon disks are stacked on top of one another in the resistor system, it is known as carbon pile system. Other than carbon pile system, another carbon resistor that is used is carbon film resistor, wherein carbon films of different shapes and sizes are used depending on the type of resistor and the circuit it is being used in.

Thick and thin film resistors are also special types of resistors used commonly. As the name suggests, thick and thin film resistors have different widths and thicknesses and depending on their thicknesses they are given

the respective titles. The thin film resistors usually exhibit higher tolerance and better performance as compared to the thick film ones and that is why they are even costlier. Metal film resistors can also be used after being coated with nickel chromium.

These resistors are shown to demonstrate extremely high noise characteristics and also non-linearity. Resistors can also be wirewound where metal wires are wound over the resistor system. The winding of the wires provides a hindrance to the flow of current, thus leading to resistance. Grid resistor is a special form of resistor which demonstrates the connection of a large convection-cooled lattice of stamped metal alloy strips in different rows between the given electrodes.

Most of these resistors are fixed resistors providing a fixed amount of resistance. But due to the changing needs, engineers have also developed special variable resistors wherein the resistance can be varied depending on the applied current and voltage. The resistance is always directly proportional to the overall voltage and inversely proportional to the applied current. Thus, all of these resistors are equally effective and advantageous.

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