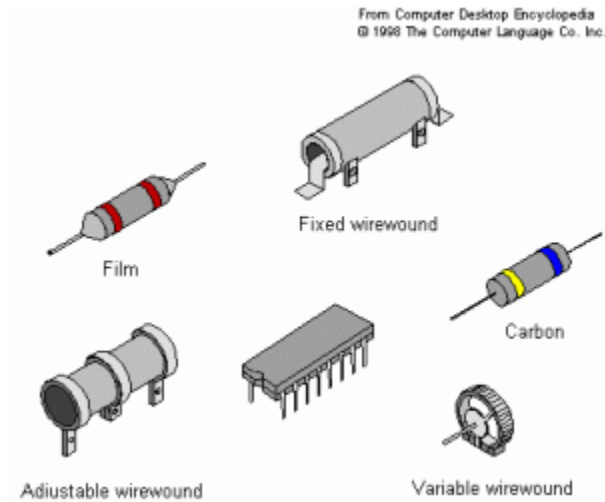


RESISTORS AND TYPES OF RESISTORS



Whats is a resistance?

The property of a substance, which oppses the flow of an electric current through it is called a resistance. Its is measured in ohms and is represented by letter 'R'.

Each resistor has two main characteristics.

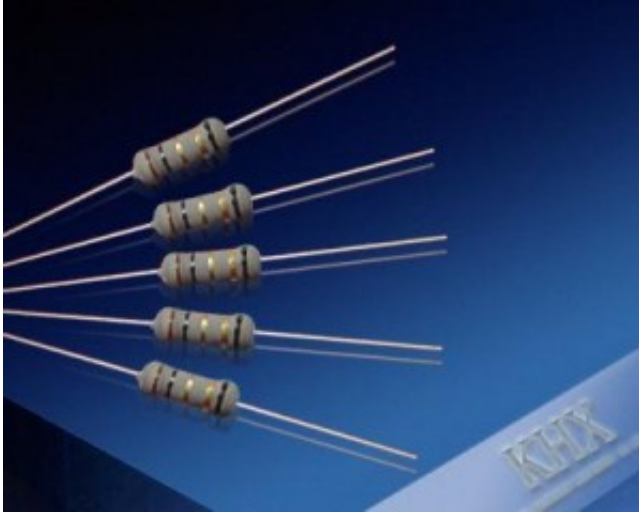
1) Its resistance value in ohms and 2) its power dissipating capacity in watts

Resistors are employed for many purposes such as electric heaters,telephone equipments, electric and electronic circuit elements and in current limiting devices. As resistors are used in wide applications there values like power rating,R value, tolerance etc vary. Resistors of resistance value ranging from .1ohms to many mega ohms are manufactured. Acceptable tolerance levels range from +/- 20% to as low as +/- .001%. The power rating may be as low as 1/10 watts and can be in several hundred watts. These all vary in range and type of application a particular resistor is used.

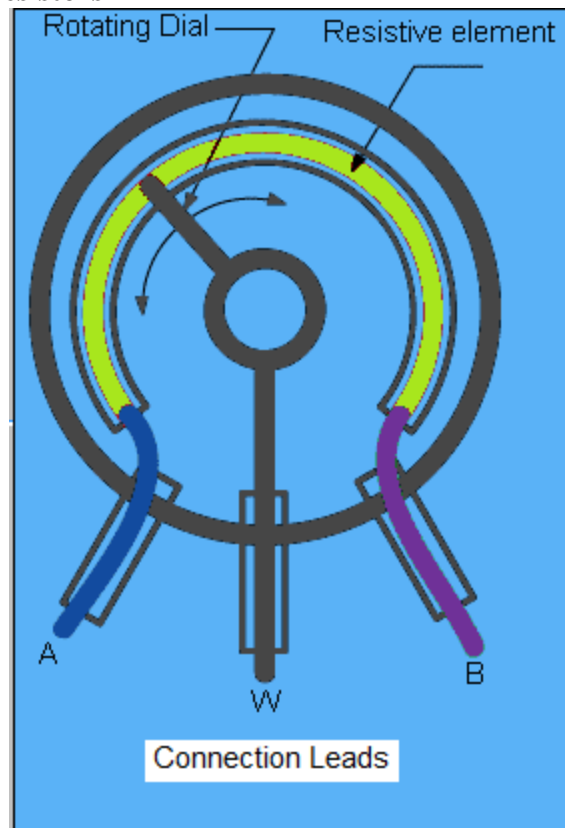
Classification of Resistors:

From operating conditions point of view, resistors can be classified into two.

1) Fixed resistors



2) Adjustable/ variable resistors



1) Fixed resistors are further classified into:

a) Carbon composition type resistors b) Metalized type resistors c) Wire wound type resistors

a) Carbon composition type resistors:

This is the most common type of low wattage resistor. The resistive material is of carbon-clay composition and the leads are made of tinned copper. These resistors are cheap and reliable and stability is high.

b)Wire wound resistors:

These resistors are a length of wire wound an insulating cylindrical core. Usually wires of material such as constantan (60% copper and 40% nickel) and manganin which have high resistivities and low temperature coefficients are employed. The completed wire wound resistor is coated with an insulating material such as baked enamel.

c) Metalized resistors

It is constructed using film deposition techniques of depositing a thick film of resistive material onto an insulating substrate.Only approximate values of resistance can be had by this method.

2) Variable resistors

For circuits requiring a resistance that can be adjusted while it remains connected in the circuit(for eg: volume control on radio), variable resistors are required. They usually have 3 lead two fixed and one movable.

Source : <http://todayscircuits.blogspot.com/2011/06/resistors-and-types-of-resistors.html#.VHB8xDSUdhg>