

RESISTORS & RESISTANCE

Insert the correct missing word into the spaces of the following:

A resistor _____ the flow of electricity passing through it. The amount of resistance it has is measured in _____ (Ω). The resistor is made from materials that can be mixed to give _____ values. Metals are good conductors of electricity and have a _____ resistance to the passage of electricity. Plastics are poor conductors of electricity and have very _____ values of resistance.

Fixed resistors are cheap and simple to use. The most common one is the _____, fixed value resistor. The values vary from a few ohms to $10\text{M}\Omega$ (10 _____ ohms). They are marked with a _____, which consists of coloured bands to indicate the value.

Answer the following questions:

Question 1. The volume control has broken on a transistor radio. State the type of resistor needed to replace it?

Question 2. A 0.25 watt resistor with a resistance of 1 ohm is placed across the terminals of a 12 volt car battery. State briefly what would happen to the resistor?

Question 3. What do the letters LDR stand for?

Question 4. What happens to the value of an LDR when a bright light shines upon it?

Question 5. Explain what is a 'Thermistor'?

Question 6. Write down Ohm's Law.

Answers:

A resistor **slows down** the flow of electricity passing through it. The amount of resistance it has is measured in **ohms** (Ω). The resistor is made from materials that can be mixed to give **various** values. Metals are good conductors of electricity and have a **low** resistance to the passage of electricity. Plastics are poor conductors of electricity and have very **high** values of resistance.

Fixed resistors are cheap and simple to use. The most common one is the **carbon film**, fixed value resistor. The values vary from a few ohms to $10\text{M}\Omega$ (10 **million** ohms). They are marked with a **colour code**, which consists of coloured bands to indicate the value.

Question 1 Variable resistor, potentiometer - not preset

Question 2 It would burn up, catch fire, be destroyed

Question 3 Light Dependant Resistor

Question 4 Its resistance decreases

Question 5 A resistor that changes value depending on heat

Question 6 $V = I \times R$, voltage = current x resistance