



What primarily determines the magnitude of resistance in a material

The physical structure of the material

The level of temperature

The type of current flowing through it

4.



0

The opposition to current flow is greater in a material with fewer free

Electrons



What does a low electrical resistivity indicate about a material

↓ R

0

It readily allows the movement of electrical charge.

It has a high resistance to electrical current.

It has a longer length than conductors.

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Electrical resistivity is a measure of how strongly a material opposes the flow of electrical

current

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What is the relationship between the resistance of a conductor and its length

$R \propto L$

The longer length of size of wire the greater R

Resistance is inversely proportional to length

Resistance is directly proportional to length

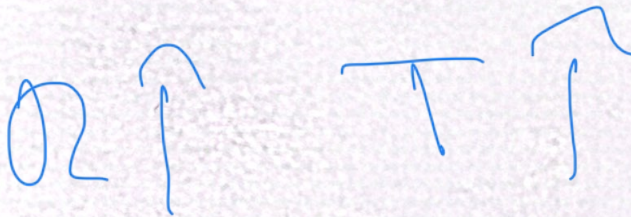
Resistance is independent of length

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What is the term used to describe a material whose resistance increases with an increase in temperature



Negative temperature coefficient of resistance

Positive temperature coefficient of resistance

Constant temperature coefficient of resistance



0

 $R \downarrow$

A material whose resistance decreases with an increase in $T \uparrow$ temperature has a

negative

temperature coefficient of resistance

positive: $R \uparrow$ $T \uparrow$ direct

negative: $R \downarrow$ $T \uparrow$ inverse

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Which material is noted for
having a negative temperature
coefficient of resistance

Copper

Carbon

Silver



Most conductors used in electronic applications have a positive temperature coefficient of resistance, while

Carbon

is a frequently used material that has a negative temperature coefficient of resistance

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في خطأ في السؤال
- او +

What happens to the conductance of a material when the temperature increases

There is mistakes in the question
it is suppose mention if positive
or negative

positive temperature coefficient:
 $R \uparrow T \uparrow$ direct
negative temperature coefficient:
 $R \downarrow T \uparrow$ inversely

It remains constant

It decreases

It increases

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**Conductance is directly proportional
to**

Area

**and inversely proportional to the
length of the material**

$$C \propto A$$

directly

$$C \propto \frac{1}{L}$$

inversely

What are resistors specifically manufactured to possess

Voltage

Specific values of resistance

Capacitance



Components known as

Resistor

are manufactured to possess specific values of resistance

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**What is the tolerance percentage
for fixed resistors that have no
fourth colour band**

25%

10%

20%

1%



What happens to the total resistance in a rheostat when the slider arm moves toward point A



The total resistance increases

moves from A to point B

The total resistance remains constant

The total resistance decreases

towards point A

$R_T \downarrow$

0

**A rheostat is a variable resistor used
to vary the amount of current
flowing in a circuit**

cur_____



What happens to the voltage applied to the load when the slider arm of the potentiometer is moved to point 3

The voltage increases.

The voltage applied to the load is zero.

The voltage is halved.



The potentiometer is used to vary
the Voltage in a circuit



How does the resistance between the terminals and the wiper of a linear potentiometer change with the position of the wiper

resistance between both terminals,

The wiper varies linearly with position of wiper

It varies linearly

It varies exponentially

It remains constant





What characterizes a thermistor in terms of resistance and temperature

The resistance increases as temperature increases.

The resistance remains constant regardless of temperature.

The resistance decreases as temperature increases.

$R \downarrow$ $T \uparrow$ inversely proportional

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A thermistor is a type of variable resistor that is sensitive to

Temperature



What distinguishes a photoconductive cell from a thermistor in terms of its resistance control

It is controlled by temperature variations.

It is controlled by light intensity.

It has a constant resistance value.



The resistance of a photoconductive
cell is controlled by light
intensity

What condition indicates that a Wheatstone Bridge is balanced

When $V_G = 0$

$$V_G = R_1$$

$$V_G = 0$$

$$R_X = R_2$$



Under what condition does R_X equal R_{POT} according to the information provided

$$R_x = R_{POT}$$

$$V_G = 0$$

$$R_1 = R_3$$

When voltage V_G is greater than 0

When voltage V_G is 0 and R_1 equals R_3

When R_2 is less than R_{POT}



A circuit constructed of three resistors of known value and a voltmeter used to determine the value of a forth resistor in the circuit is called a Bridge