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A graph of current vs. voltage, also called an I-V curve, will immediately tell you the difference between linear and nonlinear resistance. **A component with linear resistance will have an I-V curve that is actually a straight line. In contrast, a component with nonlinear resistance will have a nonlinear I-V curve.** 22-Nov-2019

 <https://resources.pcb.cadence.com> › ...



[What is Linear and Nonlinear Resistance?](#)

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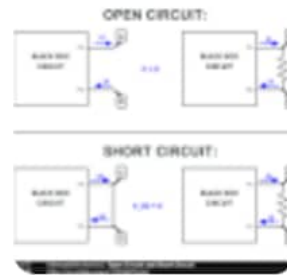
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The open circuit voltage is the voltage difference measured between two terminals when no current is drawn or supplied. The short circuit current is the current that flows when the terminals are forced to have zero voltage difference.



<https://ultimateelectronicsbook.com> > ...



## Open Circuit and Short Circuit | Ultimate Electronics Book

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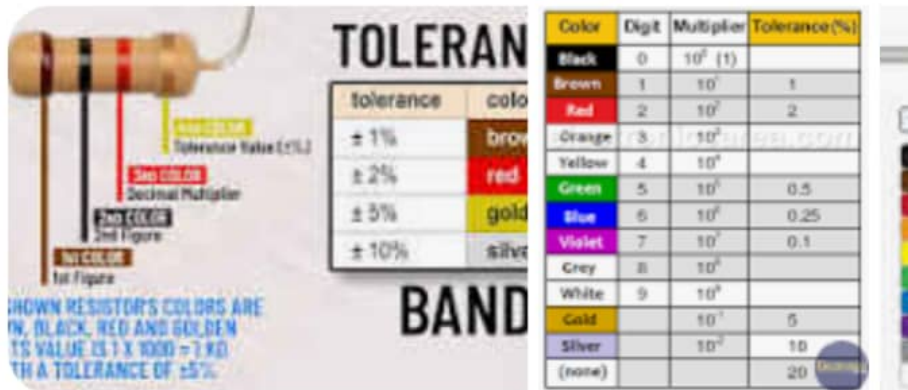
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Resistor tolerance is **the deviation from the nominal value**. It is expressed as a  $\pm$  %, measured at 25°C with no load applied. Some resistor designs have extremely tight tolerances. For example, precision wirewound resistors are made with tolerances as tight as  $\pm 0.005\%$ .

01-Jun-2021



<https://riedon.com/blog/resister-...>



**Resister Characteristics And Their Definitions - Riedon Company Blog**

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## Resistor Power Rating

Resistors are rated by the value of their resistance and the electrical power given in watts, (W) that they can safely dissipate based mainly upon their size.

### People also ask

What is tolerance and power rating of resistor? What is power rating of a resistor? [Feedback](#)

ElProCus

<https://www.elprocus.com> › power-...

## Power Rating of a Resistor : Measurement, Chart and Examples

Generally, the power rating is one of the specifications of a resistor, and sometimes, it is also called the resistor wattage rating.



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## electrostatic potential energy

Capacitors are also used to supply energy for flash lamps on cameras. The energy  $U_C$  stored in a capacitor is **electrostatic potential energy** and is thus related to the charge  $Q$  and voltage  $V$  between the capacitor plates. A charged capacitor stores energy in the electrical field between its plates.

06-Oct-2016

<https://openstax.org> › books › pages



### 8.3 Energy Stored in a Capacitor - University Physics Volume 2

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What energy is stored in capacitor energy?



Is energy stored in capacitor DC or AC?



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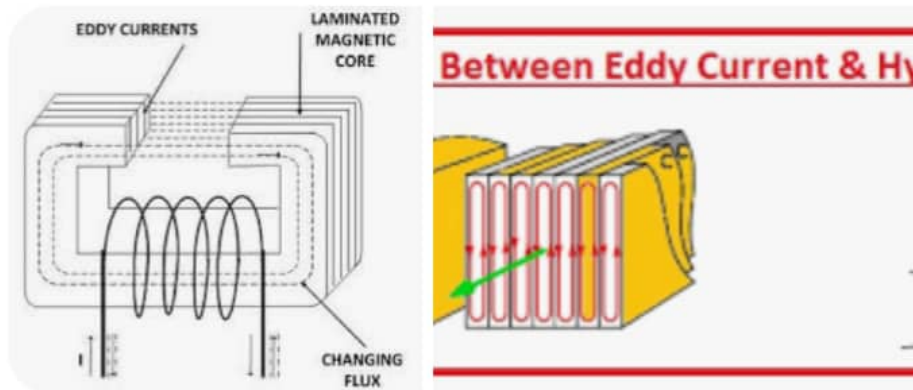
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Hysteresis current loss is the energy loss that occurs in a transformer due to the magnetization saturation in the core of the transformer, while eddy current loss is current loops formed over conductor surfaces because of the changing magnetic flux. 09-Sept-2022



<https://www.differencebetween.com> › ...



## What is the Difference Between Hysteresis and Eddy Current Loss

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As mentioned before,  
**transformers do not allow  
DC input to flow through.**

This is known as DC  
isolation. This is because  
a change in current cannot be generated  
by DC; meaning that there is no changing  
magnetic field to induce a voltage across  
the secondary component.

<https://energyeducation.ca> › Transf...

## Transformer - Energy Education



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Why DC Cannot be used in transformers?



Does transformer operate on AC or DC?



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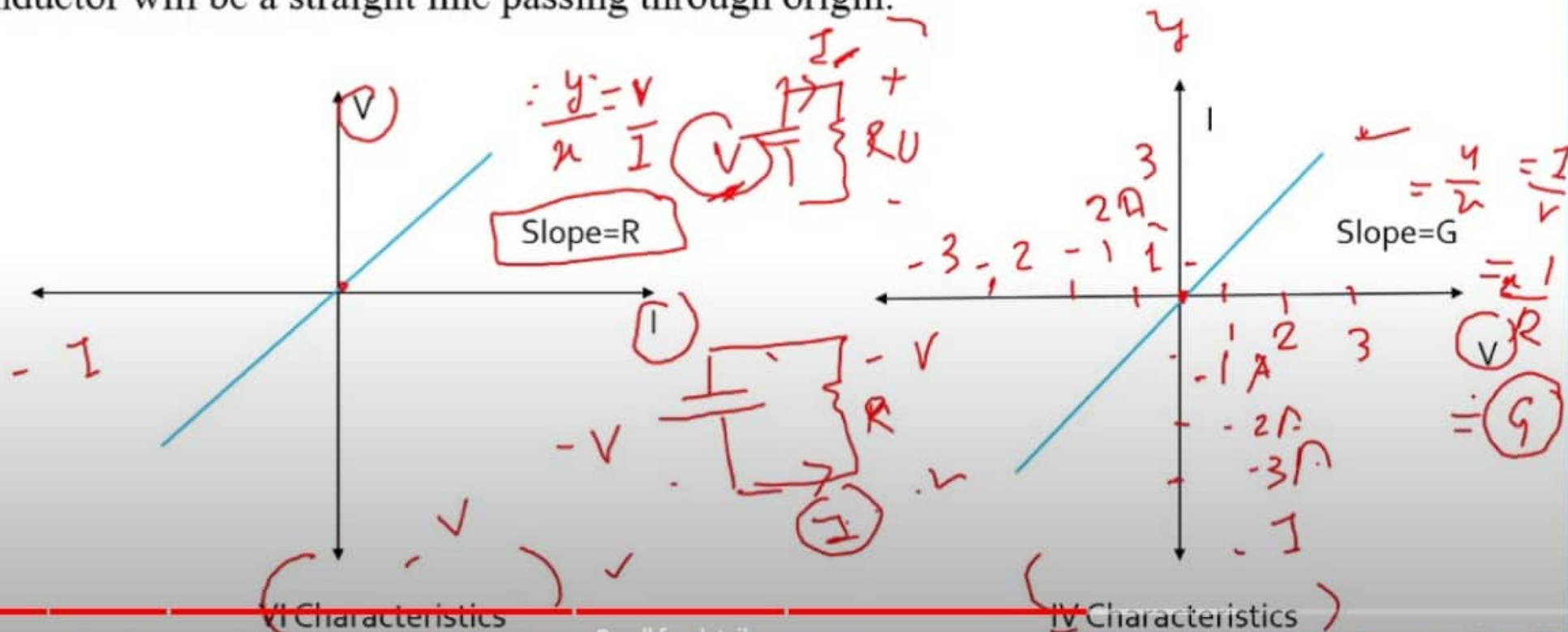




# Graphical representation of Ohm's law



- Graph between applied potential difference (V) and current (I) flowing through the conductor will be a straight line passing through origin.





# Linear and Non-linear resistor

Linear resistor:

$$V \propto I$$

Ohm's law

- A linear resistor is one whose value remains constant i.e. It does not depend on applied voltage.
- Its resistance doesn't vary with the flow of current through it.
- The current through it, will always be proportional to the voltage applied across it. It obeys Ohm's law.
- It has linear VI characteristics (straight line).

Non-linear resistor

- Non-linear resistors are the resistors whose voltage and current characteristics vary non-linearly.
- The voltage and current values depend upon other factors like temperature and light, but they may not be linear.
- It does not obey Ohm's law.
- It has non-linear VI characteristics.

answer

# Use of Power and energy formula



## Power

- $P = VI$

- $P = I^2 R$

- $P = V^2/R$

## Energy

- $E = W = P \times t$

- $E = VIt$

- $E = V^2 t/R$

- $E = I^2 R t$

Ans

mcqs

$$V = IR$$

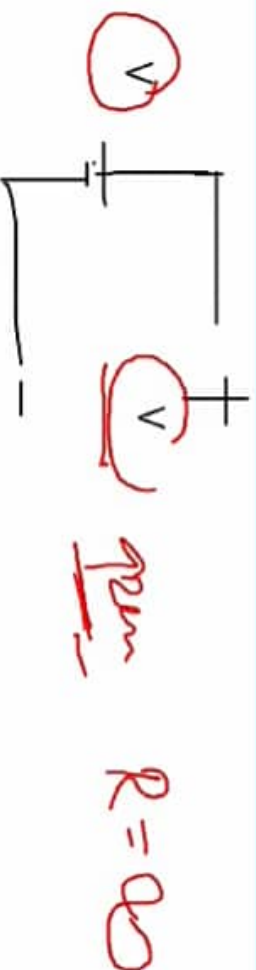
$$P = VI$$

# Open and short circuit



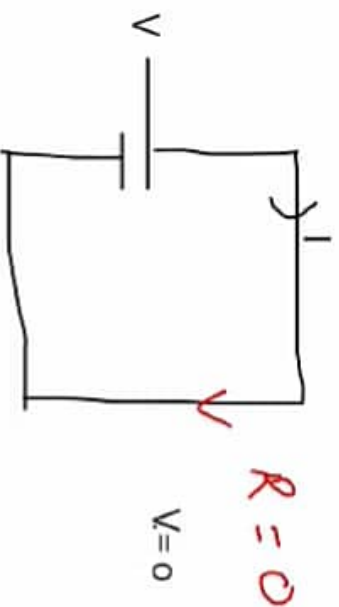
## Open circuit

- $R = \text{infinity}$
- $I = 0$
- $V = V_{\text{max}}$



## Short circuit

- $R = 0$
- $I = I_{\text{max}}$
- $V = 0$



# Graphical representation of Ohm's law



- Both the IV and VI graph shows the relation between potential  $V$ , and current  $I$ .

VI Characteristics:



- In VI graph, we take potential at y-axis and current at x-axis.
- The slope of VI graph give us the resistance.

IV Characteristics:

- In IV graph, Current is at y-axis and potential is at x-axis.
- The reciprocal of the slope of IV graph shows the resistance.

$$\therefore \text{Slope} = \frac{1}{G}$$

$$\therefore \frac{1}{\frac{1}{G}} = R$$