

Vocabulary: Advanced Circuits



Vocabulary

- Circuit breaker – an electrical switch that automatically flips when the current exceeds a certain limit, breaking the circuit.
- Equivalent resistance – the total effective resistance of all of the resistors in a circuit or a part of a circuit.

- In a series circuit, the equivalent resistance of the resistors is equal to the sum of the resistors:

$$R_{Total} = R_1 + R_2 + R_3 + \dots + R_n$$

- In a parallel circuit, the reciprocal of the equivalent resistance is equal to the sum of the reciprocals of each resistor in the circuit:

$$\frac{1}{R_{Total}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots + \frac{1}{R_n}$$

- Fuse – a safety device that melts when the current is too high, breaking the circuit.
 - Most fuses consist of a thin strip of a low-resistance metal.
- Ohm's law – an equation that relates voltage (V), resistance (R), and current (I):

$$V = IR$$

- Parallel circuit – a circuit that contains two or more branches.
- Series circuit – a circuit in which moving charges can only follow a single path.