



### Equations:

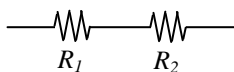
**Electric Current:**  $I = \frac{q}{t}$

**Ohm's Law:**  $V = I \cdot R$

**Electric Power:**  $P = I \cdot V$

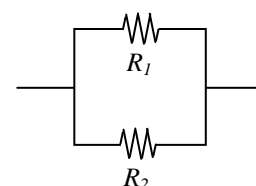
**Resistors in Series:**

$$R_S = R_1 + R_2 + \dots$$



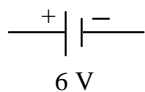
**Resistors in Parallel:**

$$\frac{1}{R_P} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$$



### Circuit Components:

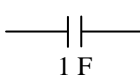
Battery



Resistor



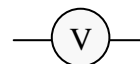
Capacitor



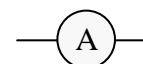
Switch



Voltmeter



Ammeter



<u>Name</u>	<u>Symbol</u>	<u>Unit</u>	<u>Notes</u>
Current	$I$	Ampere (Coulomb/second)	
Charge	$q$	Coulomb	
Time	$t$	second	
Potential Difference	$V$	Volt (Joule/Coulomb)	
Resistance	$R$	Ohm ( $\Omega$ )	
Resistance - Series	$R_S$	Ohm ( $\Omega$ )	
Resistance - Parallel	$R_P$	Ohm ( $\Omega$ )	
Power	$P$	Watt (Joule/second)	
Energy	$E$	Watt·second (Joule) kiloWatt·hour (kWh = 3,600,000 W·s)	

### Helpful Equations:

$$P = \frac{W}{t} \quad \text{or} \quad P = \frac{\text{Energy}}{t}$$

$$W = F \cdot d$$

$$Q = m \cdot c \cdot \Delta T$$

## Key Terms

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Alternating current:

Ampere:

Diode:

Direct current:

Electric current:

Electric power:

Electric resistance:

Ohm/Ohm's law;

Potential difference:

Voltage source:

Circuit:

Parallel circuit:

Schematic diagram:

Series circuit: