

Electronics Calculations Using Ohm's Law

Ohm's law states that the current through a conductor between two points is directly proportional to the potential difference or voltage across the two points, and inversely proportional to the resistance between them.

The mathematical equation that describes this relationship is:

$$I=V/R$$

Ohm's Law is commonly used in calculations dealing with electronic circuits. Ohm's Law is straight forward, but when you're trying to solve for one variable or another, it is easy to get them confused. The Table below is some common calculations using Ohm's Law.

In these calculations:

- V= Voltage (In Volts)
- I= Current (In Amps)
- R=Resistance (In Ohms)
- P=Power (In Watts)

Unknown Value	Formula
Voltage	$V=IR$
Current	$I=V/R$
Resistance	$R=V/I$
Power	$P=VI, P=V^2/R$ or $P=I^2R$

Volt-Amp to Amp Conversion

To convert volt-amps to amps take the volt amp rating and divide it by the voltage of the unit. For example you have a 24 volt 50VA power supply the amp rating would be 2.08

$$V/VA=A$$

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