

ELECTRICITY

CURRENT

$$I = Q / t$$

Flow of charge. Unit: ampere (A).

OHM'S LAW

$$V = I R$$

At constant temperature, V is proportional to I .

RESISTANCE

$$R = \rho L / A$$

Depends on length, area and material.

POWER

$$P = V I$$

Unit: watt (W). Also $P = I^2 R = V^2 / R$.

SERIES

$$R = R_1 + R_2 + \dots$$

Same current through each resistor.

PARALLEL

$$1/R = 1/R_1 + 1/R_2 + \dots$$

Same voltage across each branch.