Resistor networks

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Since a current is a flow of electrons, and the electrons cannot from the wire, the current in a series ciruit is . Electrical components do not current, e.g. in a lightbulb, the electrons flow through the and out the other side, and so the current leaving the bulb is the current entering it.

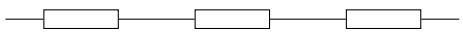
At a junction of wires, some of the electrons entering the junction will flow one way, and some another way, but because the number of electrons flowing into the junction has to be the number leaving it, the currents into and out of the junction will be .

Resistor networks

It is often necessary to find the total resistance of some complicated bunch of resistors in an electrical circuit. There are rules to help us with this, however.

Resistors in series

For resistors in series, we simply along the path of the current. For N resistances,



Resistors in parallel

For N resistors in parallel, the resistance as the number of resistors increases, as the current .