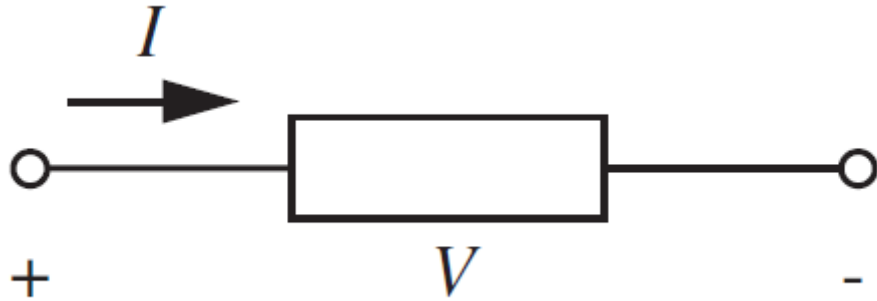


Lumped Circuit Model

We model circuit elements (voltage sources, resistances, current sources.....) as black boxes where the behaviour of the terminals models the component and the interior of the component is not important.



$$P=V \cdot I$$



If $P > 0$ then the circuit element consumes power from the circuit it is connected to.

If $P < 0$ then the circuit element delivers power to the circuit it is connected to.

$$P_{\text{delivered}} = P_{\text{consumed}} \text{ in a circuit}$$

Circuit Element: Resistor

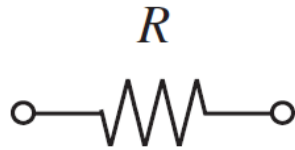


FIGURE 1.13 Symbol for resistor.

