Concept Question 8-6: What are the two components of the complex power **S**, what type of power do they represent, and what units are assigned to them?

$$\mathbf{S} = P_{av} + jQ \qquad \text{(VA)}, \qquad (8.35)$$

and conversely,

$$P_{av} = \mathfrak{Re}[\mathbf{S}] \qquad \text{(average absorbed power)} \qquad (8.36a)$$

and

$$Q = \mathfrak{Im}[\mathbf{S}] \qquad \text{(peak exchanged power)}. \qquad (8.36b)$$

▶ Whereas P_{av} represents real dissipated power, Q represents the peak amount of power exchanged (back and forth) between the source circuit and the load circuit. ◀

P_{av} is measured in watts (W), and Q is measured in volt-ampere reactive (VAR).