

# Is the reactance an energy storage component

What is the difference between resistance and reactance?

Resistance is the energy conversion from electrical energy into motion, light, or heat. Resistive loads result in 'true' or 'active' power. Reactance is the energy storage and discharge from capacitors and inductors, so no power is converted to another form. Reactive loads result in 'reactive' power.

What does reactance mean in physics?

Reactance ( $X$ ) is the opposition to an electric current resulting from energy storage and release between certain components and the rest of the circuit, analogous to inertia of a moving object.

What is the difference between impedance and reactance?

Along with resistance, it is one of two elements of impedance; however, while both elements involve transfer of electrical energy, no dissipation of electrical energy as heat occurs in reactance; instead, the reactance stores energy until a quarter-cycle later when the energy is returned to the circuit.

What is capacitive reactance?

Capacitive reactance is defined as the opposition to voltage across capacitive elements (capacitors). It is denoted as  $X_C$ . The capacitive elements are used to temporarily store electrical energy in the form of an electric field. Due to the capacitive reactance, create a phase difference between the current and voltage.

What is an example of a "reactive" electrical component?

Capacitors and inductors are classic examples of "reactive" electrical components, behaving either as electrical loads or as electrical sources depending on whether the applied electrical signal is increasing or decreasing in intensity at that instant in time.

What is the difference between reactance and apparent power?

Reactive loads result in 'reactive' power. Impedance is the overall opposition to current flow in an AC circuit, resulting in the 'apparent' power loss. Impedance is the Pythagorean sum of resistance and reactance. Likewise, apparent power is the Pythagorean sum of active and reactive power.



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