

Concept Question 3-9: Explain why the linearity property of electric circuits is an underlying requirement for the application of the source-superposition method.

A linear system obeys the superposition principle (Section 3-1.2), which for a linear circuit translates into: If a circuit contains more than one independent source, the voltage (or current) response of any element in the circuit is equal to the algebraic sum (superposition) of the individual responses associated with the individual independent sources, as if each had been acting alone.