Chapter 6, Solution 35.

An inductor has a linear change in current from 50 mA to 100 mA in 2 ms and induces a voltage of 160 mV. Calculate the value of the inductor.

Solution

$$v = L\frac{di}{dt} \quad \longrightarrow \quad L = \frac{v}{di/dt} = \frac{160x10^{-3}}{\frac{(100-50)x10^{-3}}{2x10^{-3}}} = \underline{6.4\ \text{mH}}$$