

Chapter 6, Solution 10

$$i = C \frac{dv}{dt} = 5 \times 10^{-3} \frac{dv}{dt}$$

$$v = \begin{cases} 16t, & 0 < t < 1 \mu s \\ 16, & 1 < t < 3 \mu s \\ 64 - 16t, & 3 < t < 4 \mu s \end{cases}$$

$$\frac{dv}{dt} = \begin{cases} 16 \times 10^6, & 0 < t < 1 \mu s \\ 0, & 1 < t < 3 \mu s \\ -16 \times 10^6, & 3 < t < 4 \mu s \end{cases}$$

$$i(t) = \begin{cases} 80 \text{ kA}, & 0 < t < 1 \mu s \\ 0, & 1 < t < 3 \mu s \\ -80 \text{ kA}, & 3 < t < 4 \mu s \end{cases}$$
