Chapter 7, Solution 38.

Let $i = i_p + i_h$

$$\dot{i}_h + 3i_h = 0 \qquad \longrightarrow \qquad i_h = Ae^{-3t}u(t)$$

Let $i_p = ku(t)$, $\quad \dot{i}_p = 0$, $\quad 3ku(t) = 2u(t) \qquad \longrightarrow \qquad k = \frac{2}{3}$

$$i_p = \frac{2}{3}u(t)$$

$$i = (Ae^{-3t} + \frac{2}{3})u(t)$$

If $i(0) = 0$, then $A + 2/3 = 0$, i.e. $A = -2/3$. Thus,

$$i = \frac{2}{3}(1 - e^{-3t})u(t)$$