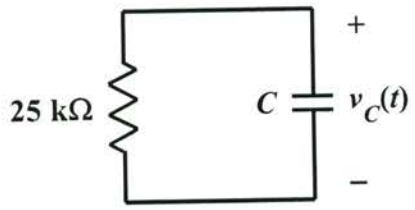
EE 2240

Problem #03

The capacitor voltage, $v_C(t)$, in the circuit shown below is

$$v_C(t) = 5e^{-8t} \text{ V} \quad \text{for } t \geq 0.$$

Determine the value of C and the initial value of $v_C(t)$.



$$\frac{1}{(25\text{k}\Omega)\,C} = 8 \quad \Rightarrow \quad C = \frac{1}{8(25\text{k}\Omega)} = 5\,\mu\text{F}$$

$$v_C(0) = 5 \text{ V}$$