①

$v(t)$ $i(t)$

②

$V_o = 4V$ $V_o = I_o R$ $4V = 0.002_{mA} \cdot R$

$1RC \rightarrow \quad 1 - \frac{1}{e} \approx 0.63$ $R = 2k\Omega$

$4 \cdot 0.63 \approx 2.52$

$1RC = 10 \cdot 10^{-6} s$ $2000 \, C = 10^{-5}$

$C = 5 \times 10^{-9} F$

$V_o = 4V$
$R = 2k\Omega$
$C = 5_n F$