

MATH265 Course Project Part

RC Circuit Analysis
Capacitance and
Resistance Calculations
Graphs and Summary

Capacitance Calculation

- Charge equation: $Q = Q_f (1 - e^{(-t/\tau)})$
- Final charge (Q_f) $\approx 4.99 \times 10^{-6} \text{ C}$
- Using $Q_f = C * \varepsilon$:
- $C = Q_f / \varepsilon$
- $C = (4.99 \times 10^{-6} \text{ C}) / (5\text{V})$
- $C \approx 0.999 \mu\text{F}$