

53. The dimension of $\frac{1}{RC}$, where R is the resistance and C is the capacitance, is the same as that of

- A. current
- B. charge
- C. time
- D. frequency

$$\frac{t}{RC} : \text{dimensionless}$$

$$\frac{1}{RC}$$

$$[RC] = [T]$$

$$\left[\frac{1}{RC} \right] = \left[\frac{1}{T} \right]$$

$$C = \frac{q}{V}, \quad V = iR$$

$$C = \frac{q}{iR}$$

Qubit

$$RC = \frac{q}{i} = \frac{q}{q/t} = t$$

$$\frac{1}{RC} = \frac{1}{t}$$