OCR B Physics A Level

5.1.2 - Capacitors

Flashcards

What does a capacitor do?

What does a capacitor do?

A capacitor is a component that stores charge.

What is capacitance?

What is capacitance?

Capacitance is the charge stored per unit potential difference.

State the equation for capacitance.

What is capacitance?

$$C = Q/V$$

Where C is capacitance, Q is charge and V is potential difference.

On a charge-voltage graph, what does the gradient represent?

On a charge-voltage graph, what does the gradient represent?

Capacitance

On a charge-voltage graph, what does the area represent?

On a charge-voltage graph, what does the area represent?

Energy stored.

What is the equation for the energy stored by a capacitor?

What is the equation for the energy stored by a capacitor?

$$E = \frac{1}{2} QV$$

What is the time constant of a capacitor?

What is the time constant of a capacitor?

The time it takes for a capacitor to charge to 63% of its total charge or the time taken for a capacitor to discharge to 37% of its total charge.

What is the equation for the time constant of a capacitor?

What is the equation for the time constant of a capacitor?

Time Constant = Resistance x Capacitance