

**31** Two metal plates are a distance of 30 cm apart in a vacuum.

A current exists between the two plates consisting of electrons moving at a constant speed of  $1.5 \times 10^6 \text{ m s}^{-1}$ .

At any instant, there is always just one electron travelling between the plates.

What is the current between the plates?

**A**  $3.2 \times 10^{-26} \text{ A}$

**B**  $8.0 \times 10^{-13} \text{ A}$

**C**  $1.6 \times 10^{-12} \text{ A}$

**D**  $2.0 \times 10^{-7} \text{ A}$