

34 An electric current of 12 A is in a wire of length 0.35 m.

The average drift speed of the free electrons (charge carriers) in the wire is $5.0 \times 10^{-4} \text{ m s}^{-1}$.

How many free electrons are in the wire?

A 1.3×10^{16}

B 5.3×10^{22}

C 1.5×10^{23}

D 4.3×10^{23}