

33 A wire has a length of 12 cm and contains a total of 5.1×10^{22} free electrons.

When a potential difference is applied across the ends of the wire, the free electrons move with an average drift speed of $4.0 \times 10^{-6} \text{ m s}^{-1}$.

What is the current in the wire?

A 0.0027 A

B 0.0039 A

C 0.27 A

D 0.39 A

34 A battery is connected to a 10.0 V