

32 A wire of diameter d is connected into an electric circuit. There is a current I in the wire and the charge carriers have an average drift speed v .

The wire is replaced with a new wire of the same material but with a diameter $0.5d$.

The current is adjusted so that the charge carriers in the new wire have an average drift speed $3v$.

What is the current in the new wire?

A $0.75I$

B $1.5I$

C $6I$

D $12I$