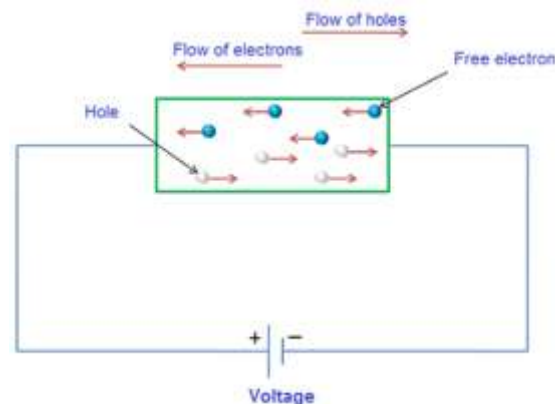


Drift current

The flow of charge carriers, which is due to the applied voltage or electric field is called drift current.

In a semiconductor, there are two types of charge carriers, they are electrons and holes. When the voltage is applied to a semiconductor, the free electrons move towards the positive terminal of a battery and holes move towards the negative terminal of a battery.

Electrons are the negatively charged particles and holes are the positively charged particles. As we already discussed that like charges repel each other and unlike charges attract each other. Hence, the electrons (negatively charged particle) are attracted towards the positive terminal of a battery and holes (positively charged particle) are attracted towards the negative terminal.



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In a semiconductor, the electrons always try to move in a straight line towards the positive terminal of the battery. But, due to continuous collision with the atoms they change the direction of flow. Each time the electron strikes an atom it bounces back in a random direction. The applied voltage does not stop the collision and random motion of electrons, but it causes the electrons to drift towards the positive terminal.

The average velocity that an electron or hole achieved due to the applied voltage or electric field is called drift velocity.