
List of activities at formation of depletion region in pn junction

- Diffuse charge carries
- Combine charge carries
- Deplete free charge carries around the junction
- Equilibrilize

Magnitude of approximate thickness in p n junction

1 micro meter

Level of diffusion of from to to of charge carriers in p n junction

Higher concentration to lower concentration

Destination of free electrons of N region in p n junction

P region

Consequence of movement of free electron of N region to P region in p n junction

Electron Hole recombination

Type of ions present at P region near the junction in p n junction

Immobile Negative ions

Type of ions present at N region near the junction in p n junction

Immobile Positive ions

Depletion region in p n junction

Layer around the p n junction depleted of free charge carriers

Condition for formation of barrier potential in p n junction

Equilibrium condition of diffusion of charge carriers

Term for barrier potential in p n junction

Junction potential

Cause of formation of barrier potential in p n junction

Separation of ions

Barrier potential in p n junction

Electric potential difference established across p n junction

Cause of name of barrier potential

Prevent further diffusion of charge carriers

Magnitude of barrier potential at room temperature for germanium

0.3 V

Magnitude of barrier potential at room temperature for silicon

0.7 V

Rate of decrement of barrier potential for germanium and silicon

2 mV per degree centigrade

Change in depletion layer on decreasing doping level in p n junction

Increase

Change in depletion layer on increasing doping level in p n junction

Decrease

Diffusion current in p n junction

Electric current due to diffusion of majority charge carrier in p n junction

Direction of diffusion current in p n junction

P to N region

Direction of barrier field in p n junction

N region to P region

Drift current in p n junction

Current set up by barrier field

Direction of drift current in p n junction

N to P region

List of factors affecting barrier potential in p n junction

- Nature of semi conductor
- Temperature
- Amount of doping

Representation of graph of p n junction in barrier potential

[IM] - Potential at y axis - X at x axis - O potential at X1 - Potential rising slowly - Potential constant after X2 - Barrier potential