

The main difference between the direct and indirect semiconductor is that the transition from the top of ● valence band to the bottom of conduction band at the direct transition take place by changing the energy only and there is no change in momentum as in GaAs, while at indirect semiconductor, the transition from the valence band to the conduction is happen by changing the energy and momentum together as in silicon as well as we can distinguish between them that the peak of the valence band and the bottom of the conduction band are on same line in direct semiconductors, while indirect semiconductors are not located on same line ☒