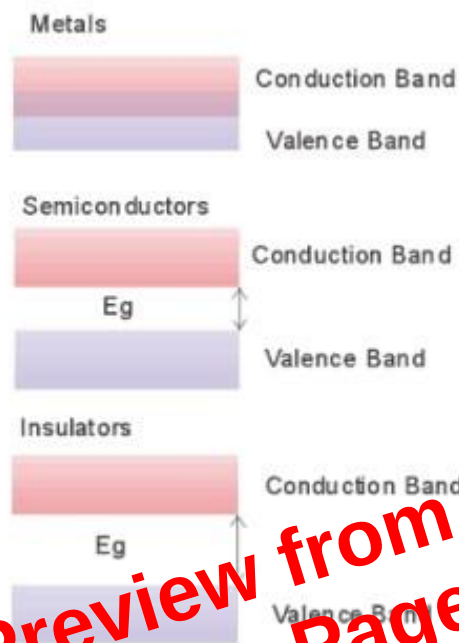


electrons can be free by small energy in solids material (small or there is no energy gap between valence band and conduction band) and do the role of electrical conduction. But in the insulator materials have (5 to 8) so there is high binding energy between these electrons and nucleus and can not to be free (high energy gap between valence and conduction band) and can not conduct electricity, but in semiconductors have 4 electrons that inter between conductors and insulator in ability of electric conduction.



Types of Semiconductors

Semiconductors are mainly classified into two types: Intrinsic and Extrinsic.

Intrinsic Semiconductor

An intrinsic semiconductor material is chemically very pure and possesses poor conductivity. It has equal numbers of negative carriers (electrons) and positive carriers (holes). A silicon crystal is different from an insulator because at any temperature above absolute zero temperature, there is a finite probability that an electron in the lattice will be knocked

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