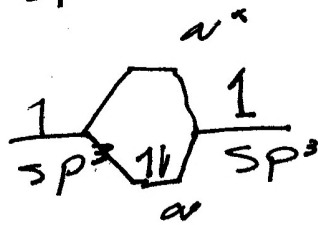
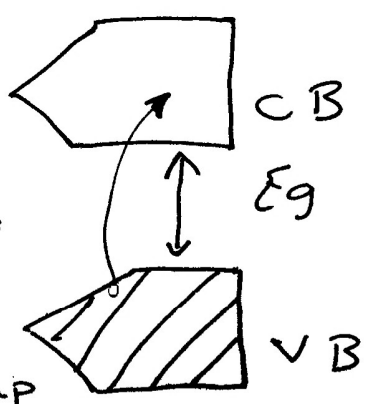


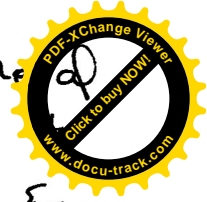
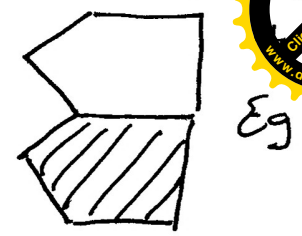
2 Si



at Room Temp



(1)



\bar{e} in CB — m_e^*
 h^+ in VB — m_h^* } effective mass

Density of State (DOS)

We try to calculate the number of \bar{e} and number of h^+ are available for conduction for semiconductor

if you have system

System with N Atoms

$N \equiv N$ Orbitals $\equiv 2N$ states

For large N $N \equiv$ continuous \equiv band
y small distance

DOS
 $g(E)$

define as a Total number of available state (per unit energy and per unit volume) to occupy

the unit is $J^{-1} m^{-3}$ (or) $eV^{-1} cm^{-3}$ $g(E)$

available state in VB is a holes
 \Rightarrow \Rightarrow CB = electrons