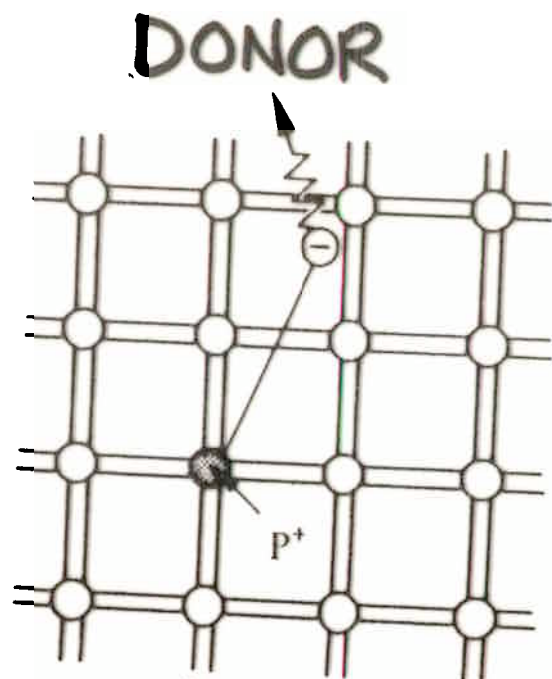
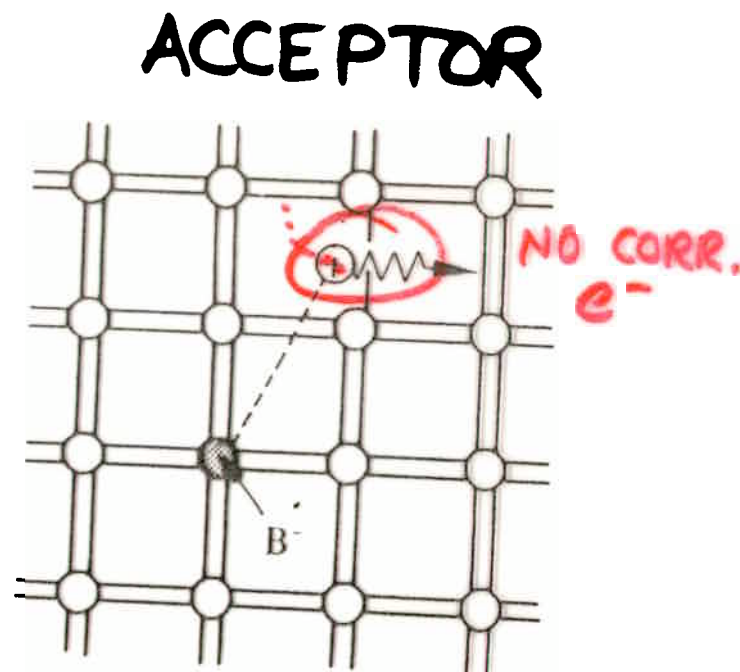


SEMICONDUCTOR FUNDAMENTALS



extra e^-
N TYPE
 NO CORR. HOLE



"MISSING" e^-
P TYPE
 NO CORR. e^-

Figure 2.10 Visualization of (a) donor and (b) acceptor action using the bonding model. In (a) the Column V element P is substituted for a Si atom; in (b) the Column III element B is substituted for a Si atom.

$n > p$
 e^- DOMINATE

$p > n$
 HOLES DOMINATE