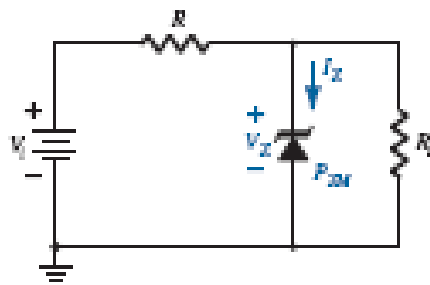


Zener Diode

A zener diode is a special type of device designed to operate in the zener breakdown region. Zener diodes act like normal p-n junction diodes under forward biased condition. When forward biased voltage is applied to the zener diode it allows large amount of electric current and blocks only a small amount of electric current.

Zener diode is heavily doped than the normal p-n junction diode. Hence, it has very thin depletion region. Therefore, zener diodes allow more electric current than the normal p-n junction diodes.

Zener diode allows electric current in forward direction like a normal diode but also allows electric current in the reverse direction if the applied reverse voltage is greater than the zener voltage. Zener diode is always connected in reverse direction because it is specifically designed to work in reverse direction.



i) V_i and R_L fixed

if $V \geq V_z$ then diode is ON

if $V < V_z$ diode is OFF