

Diode Action in Lyrical Form ENGN/PHYS 207—Fall 2018

Vegemite Sandwich¹: The following is a list of terms you should know by heart to speak the language of semiconductors. Incorporate these key words into song lyrics or poem to explain how the behavior of a diode: why current readily flows when forward biased, but nearly zero current flows when reversed biased. Add an additional verse to further explain how LEDs produce light.

- Valence band
- Conduction band
- Band-gap energy
- Hole; electron
- Electron-Hole Pair (EHP)
- Recombination
- Doped semiconductor: n-type and p-type
- PN junction
- Diffusion current
- Drift current
- Depletion layer
- Forward Bias
- Reverse Bias

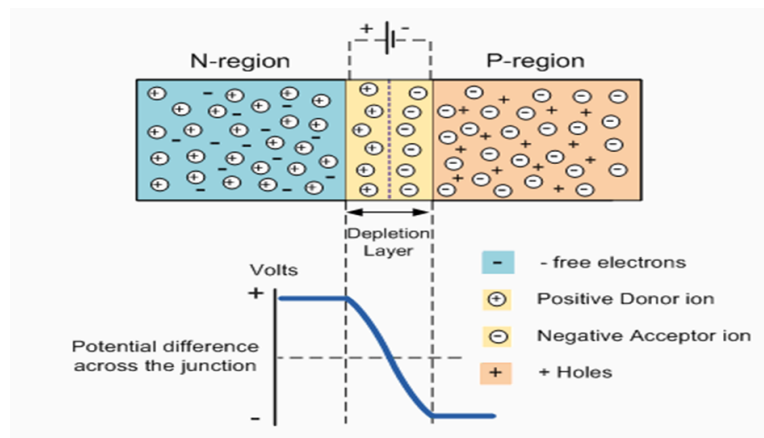


Figure 1: PN junction showing major components of diode behavior

¹Seemingly random title comes from the song Down Under by Men at Work. One lyric goes “I said ‘Do you speak-a-my language?’ He just smiled and gave me a Vegemite sandwich.” Vegemite tastes delicious, by the way.