

1.2. TYPES OF LIGHT EMITTING DIODES

There are different types of light emitting diodes present and some of them are mentioned below.

- Gallium Arsenide (GaAs) – infra-red
- Gallium Arsenide Phosphide (GaAsP) – red to infra-red, orange
- Aluminium Gallium Arsenide Phosphide (AlGaAsP) – high-brightness red, orange-red, orange, and yellow
- Gallium Phosphide (GaP) – red, yellow and green
- Aluminium Gallium Phosphide (AlGaP) – green
- Gallium Nitride (GaN) – green, emerald green
- Gallium Indium Nitride (GaInN) – near ultraviolet, bluish-green and blue
- Silicon Carbide (SiC) – blue as a substrate
- Zinc Selenide (ZnSe) – blue
- Aluminium Gallium Nitride (AlGaN) – ultraviolet.

Symbol



1.3. COSTRUCTION:

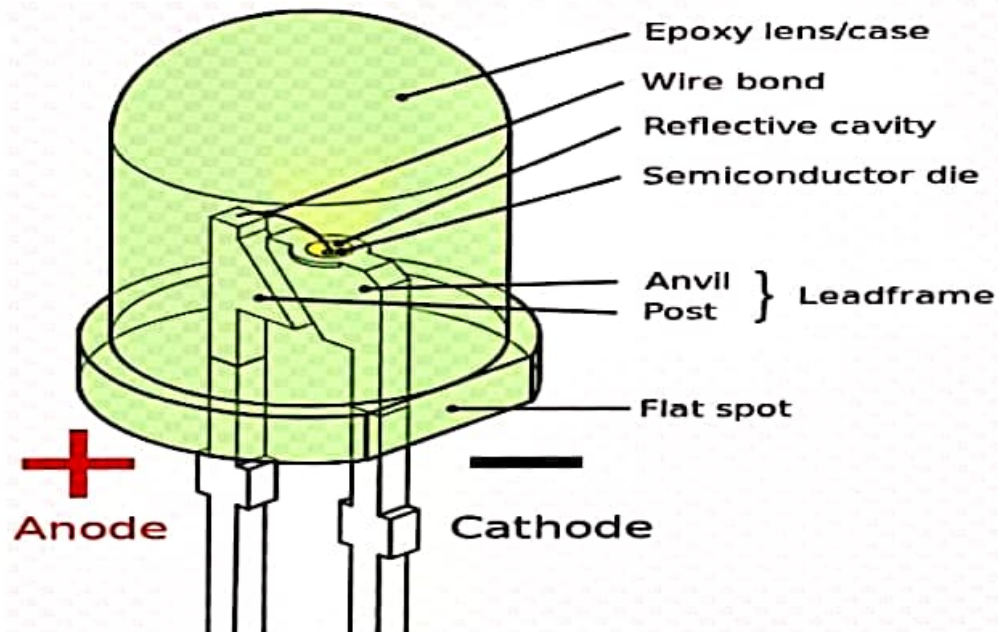


Fig 1.1 LED

The construction of LED is similar to the normal p-n junction diode except that gallium, phosphorus and arsenic materials are used for construction instead of silicon or germanium materials. However, silicon or germanium diodes do not emit energy in the form of light. Instead, they emit energy in the form of heat. Thus, silicon or germanium is not used for constructing LEDs. The symbol of LED is similar to the normal p-n junction diode except that it contains arrows pointing away from the diode indicating that light is being emitted by the diode.

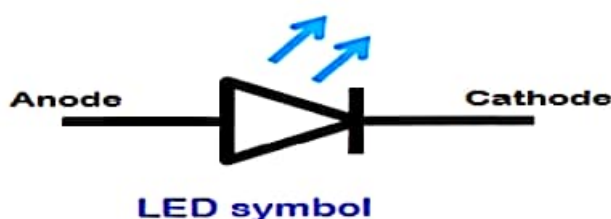


Fig 1.2 LED symbol