

# 29 Lecture - PHY301

## Important Subjective

**What is a PN junction?**

**Answer:** A PN junction is formed when a P-type semiconductor is joined to an N-type semiconductor.

**What is forward biasing of a PN junction?**

**Answer:** Forward biasing of a PN junction is the process of applying a positive voltage to the P-type material and a negative voltage to the N-type material.

**What is reverse biasing of a PN junction?**

**Answer:** Reverse biasing of a PN junction is the process of applying a negative voltage to the P-type material and a positive voltage to the N-type material.

**What is the forward voltage drop of a PN junction diode?**

**Answer:** The forward voltage drop of a PN junction diode is typically around 0.7V for silicon diodes and 0.3V for germanium diodes.

**What is reverse saturation current?**

**Answer:** Reverse saturation current is the small current that flows when a PN junction is reverse-biased.

**What is the depletion region of a PN junction?**

**Answer:** The depletion region is the region around the PN junction where the mobile charge carriers have been depleted due to the diffusion of majority carriers.

**What is the breakdown voltage of a PN junction diode?**

**Answer:** The breakdown voltage of a PN junction diode is the voltage at which the diode breaks down and allows a large current to flow in the reverse direction.

**What is the reverse leakage current of a PN junction diode?**

**Answer:** The reverse leakage current is the small current that flows in the reverse direction even when the diode is reverse-biased.

**What is the diode equation?**

**Answer:** The diode equation is an empirical relationship between the current flowing through a PN junction diode and the voltage across it.

**What is the ideality factor of a PN junction diode?**

**Answer:** The ideality factor is a measure of how closely the behavior of a PN junction diode follows the ideal diode equation. A value of 1 indicates ideal behavior, while values greater than 1 indicate non-ideal behavior.