

29 Lecture - PHY301

Important Mcqs

What is the typical forward voltage drop for a silicon PN junction diode?

- A. 0.3V
- B. 0.5V
- C. 0.7V
- D. 1.0V

Answer: C. 0.7V

What is the depletion region of a PN junction?

- A. The region where the mobile charge carriers are depleted
- B. The region where the mobile charge carriers are accumulated
- C. The region where the doping concentration is highest
- D. The region where the doping concentration is lowest

Answer: A. The region where the mobile charge carriers are depleted

What is reverse saturation current?

- A. The current that flows in the forward direction when the diode is forward-biased
- B. The current that flows in the reverse direction when the diode is forward-biased
- C. The current that flows in the forward direction when the diode is reverse-biased
- D. The current that flows in the reverse direction when the diode is reverse-biased

Answer: D. The current that flows in the reverse direction when the diode is reverse-biased

What is the breakdown voltage of a PN junction diode?

- A. The voltage at which the diode turns on
- B. The voltage at which the diode turns off

- C. The voltage at which the diode starts to conduct heavily in the forward direction
- D. The voltage at which the diode breaks down and allows a large current to flow in the reverse direction

Answer: D. The voltage at which the diode breaks down and allows a large current to flow in the reverse direction

What is the diode equation?

- A. An empirical relationship between the current flowing through a PN junction diode and the voltage across it
- B. A mathematical relationship between the resistance of a diode and its temperature coefficient
- C. A relationship between the doping concentration of a diode and its breakdown voltage
- D. A relationship between the size of a diode and its maximum power dissipation

Answer: A. An empirical relationship between the current flowing through a PN junction diode and the voltage across it

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

- A. Microamperes
- B. Milliamperes
- C. Amperes
- D. The reverse leakage current of a diode is always zero

Answer: A. Microamperes

What is the ideality factor of a PN junction diode?

- A. A measure of how closely the behavior of a diode follows the ideal diode equation
- B. A measure of the temperature coefficient of a diode
- C. A measure of the doping concentration of a diode
- D. A measure of the physical size of a diode

Answer: A. A measure of how closely the behavior of a diode follows the ideal diode equation

What happens to the forward current through a diode as the forward voltage is increased?

- A. It remains constant

- B. It decreases
- C. It increases exponentially
- D. It increases linearly

Answer: C. It increases exponentially

What happens to the reverse current through a diode as the reverse voltage is increased?

- A. It remains constant
- B. It decreases
- C. It increases exponentially
- D. It increases linearly

Answer: C. It increases exponentially

What is the typical reverse breakdown voltage for a silicon PN junction diode?

- A. 5V
- B. 10V
- C. 50V
- D. 100V**

Answer: C. 50V