

Explain the operation of P-N Junction diode under Forward and Reverse bias condition with its characteristics.
Define Diffusion capacitance? Also derive the expression for C_D
Explain the working of a diode as a switch.
Describe the operation of Half Wave and Full Wave rect.
Derive the expression for V_{dc} , V_{ac} and Calculate Ripple factor and Efficiency for Half Wave and Full Wave Rectifier.
Define Clipper. Explain different type of clippers with neat sketches.

Write the applications of the Diode?

Explain the rectifier which is most reliable and produces more than 90% of efficiency?

1. Example of a semiconductor material is

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- a. Iron b. glass c. Germanium d. Antimony

2. Cut-in voltage of a silicon diode is

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- a. 0.1v b. 0.3v c. 0.2v d. 0.7v

3. Cut-in voltage is also known as

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- a. Cut-off voltage b. cut-out voltage c. Threshold voltage d. line voltage

4. Diffusion capacitance of a diode exists under ____ bias

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- a. Forward b. Reverse c. Both forward & reverse d. Neither Forward nor Reverse

5. ____ circuit converts AC to pulsating DC

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- a. Filter b. Regulator c. Rectifier d. Clipper

6. Value of ripple factor of a half wave rectifier is ____

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- a. 0.48 b. 1.21 c. 0.72 d. 0.32

7. Number of diodes needed to construct a half wave rectifier is

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- a. 4 b. 3 c. 2 d. 1

8. Value of efficiency of a centre tapped full wave rectifier is

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- a. 0.48 b. 0.81 c. 1.21 d. 0.40

9. What type of diode circuit is used to clip off portions of signal voltages above or below certain levels? []

- a. clipper or limiter b. clamper c. IC voltage regulator d. none of the above

11. The size of the depletion region increases under _____ bias.

12. Symbol of a PN junction diode is _____

13. _____ is the process of adding impurities to pure semiconductor.

14. Current in a forward-biased diode is due to the _____ charge carriers.

15. Clippers are also known as _____.