

## LAB SESSION 11

### To Study The Parallel And Series Diode Clipper Circuits Operation

Name of Student: .....

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Date of Experiment: .....

Report submitted on: .....

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Marks obtained: .....

Remarks: .....

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**DEPARTMENT OF ELECTRICAL TECHNOLOGY**  
**UNIVERSITY COLLEGE OF ENGINEERING AND TECHNOLOGY**

# TO STUDY THE PARALLEL AND SERIES DIODE CLIPPER CIRCUITS OPERATION

## OBJECTIVE

- To observe and analyze parallel diode clippers
- To observe and analyze series diode clippers

## EQUIPMENT REQUIRED

- Breadboard
- Diodes
- Resistors
- CRO

## THEORY

The process of cutoff of a waveform on output is called limiters. Sometimes we need different output wave, so we get this wave by using clippers.

Thus, diode can be used as voltage clippers in series as well as parallel. In both cases, diode is biased as well as unbiased. Then, further biased and unbiased voltage diodes have positive and negative clipped voltages.

Here we will study only unbiased clippers.

## PARALLEL CLIPPER

- In parallel unbiased positive clipper, it will be reversed biased during negative half cycle but during positive cycle, it will be forward biased and an output waveform up to 0.7 V will be shown.

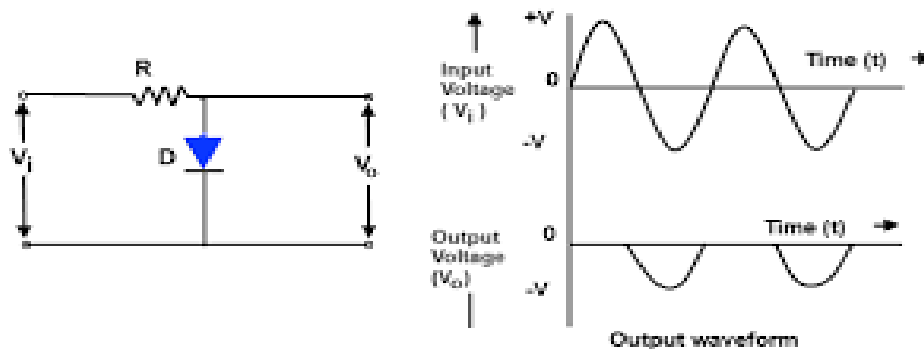


Figure 5: Shunt (parallel) positive clipper

Fig 5.1

- In parallel unbiased negative clipper, it will be reversed biased during positive half cycle but during negative cycle, it will be forward biased and an output waveform upto 0.7 V will be shown.

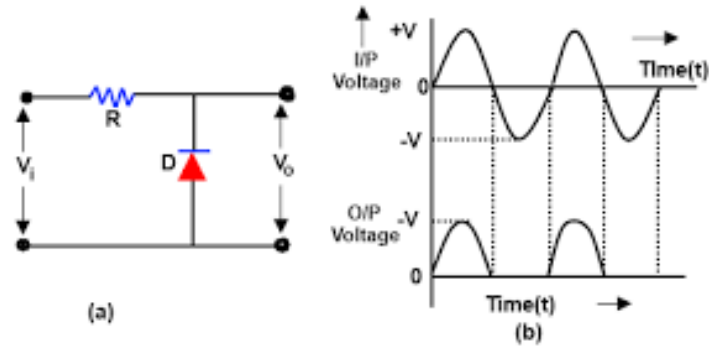


Figure 7: Shunt (parallel) Negative Clipper

Fig 5.2

- In this circuit, during positive cycle it will be clipped up to 0.7 and for negative cycle it will be clipped -0.7.

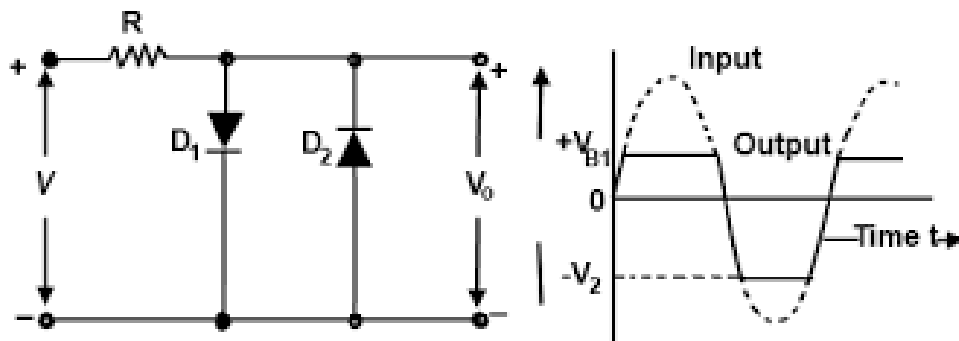


Figure 9: Dual (Combination) Diode Clipper

Fig 5.3

## SERIES CLIPPER

- In series positive clippers, the diode and resistor are connected in series way as in diagram. So the output for this circuit is:

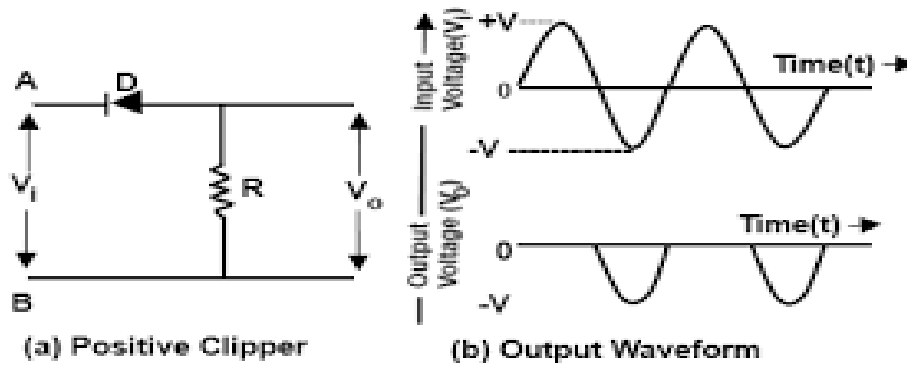


Figure 1: Series Positive Clipper

Fig 5.4

- In series negative clippers, the diode and resistor are connected in series way and diode direction is opposite as in diagram. So the output for this circuit is:

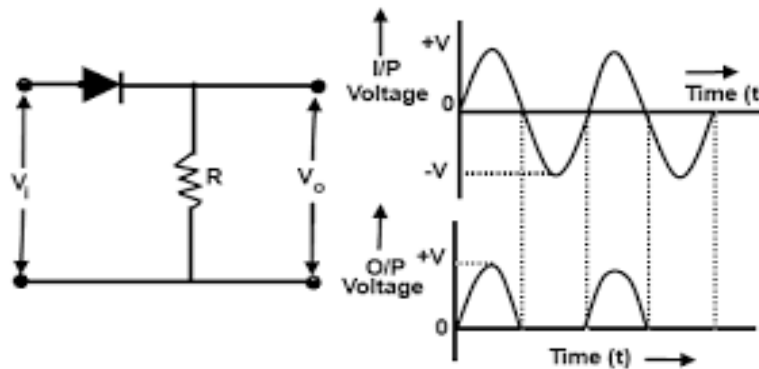


Figure 3: Series Negative Clipper

FIG 5.5