

A dark blue vertical bar is on the left. A blue arrow points right from it, containing the date.

4/19/2022

EXPERIMENT NO.4

EC111

Several thin, curved lines in dark blue and light grey originate from the bottom left and sweep upwards and to the right.

VISHAL KUMAR PRAJAPATI

ROLL NO. 2101227

GROUP NO. 18

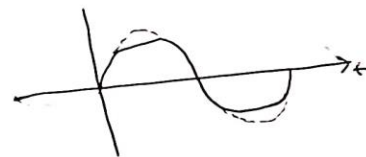
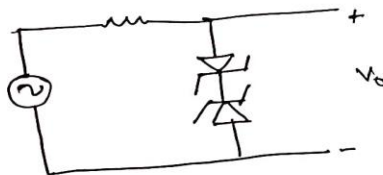
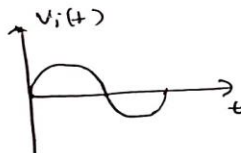
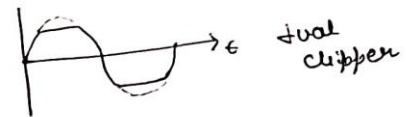
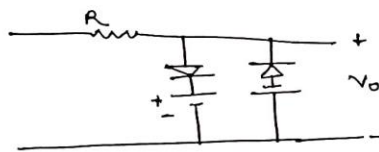
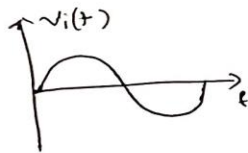
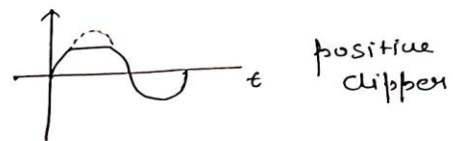
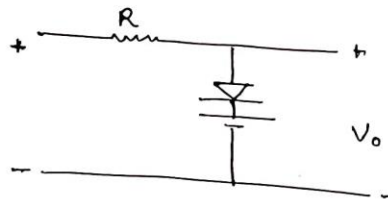
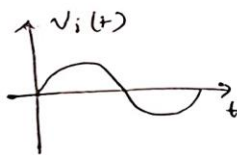
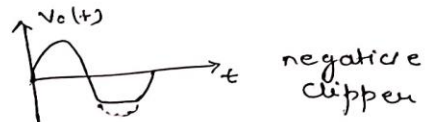
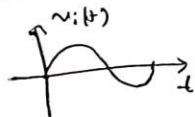
Name - Vishal Kumar Prayapati
 Roll - 2101227
 Group - 18

Experiment . 4

Aim : To study the characteristics of clipper circuit :

Apparatus : Breadboard , connecting wire , 470Ω , diode 1N4007 , function generator , Oscilloscope .

Circuit : $V_{in} = 5V$, $f = 100\text{Hz}$, $V_R = 2V$



verified
 P. Mallick
 19/05/22

EXPERIMENT NO. 4

OBJECTIVE:

- To study the characteristics of the clipper circuit.

APPARATUS REQUIRED:

- A p-n junction diode
- 470ohm resistor
- Oscilloscope
- Function generator
- Diode

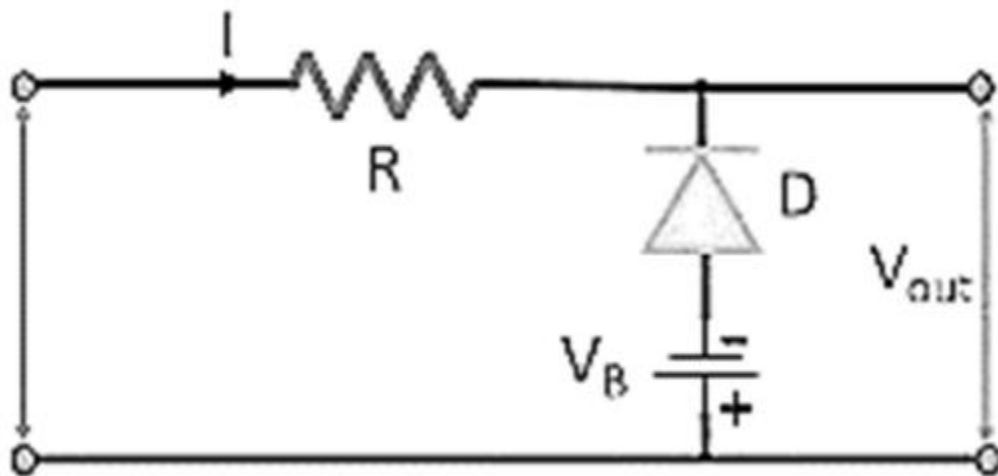
THOREY:

Clipper circuits are the electronic circuits that clip off or remove a portion of an AC signal, without causing any distortion to the remaining part of the waveform. These are also known as clippers, clipping circuits, limiters, slicers, etc. The main component of a clipper circuit is a diode or any other type of diode. The diode clips a portion from the input waveform. The shape of the waveform depends on the configuration as well as the design of the circuit. Clipper circuits are termed protection

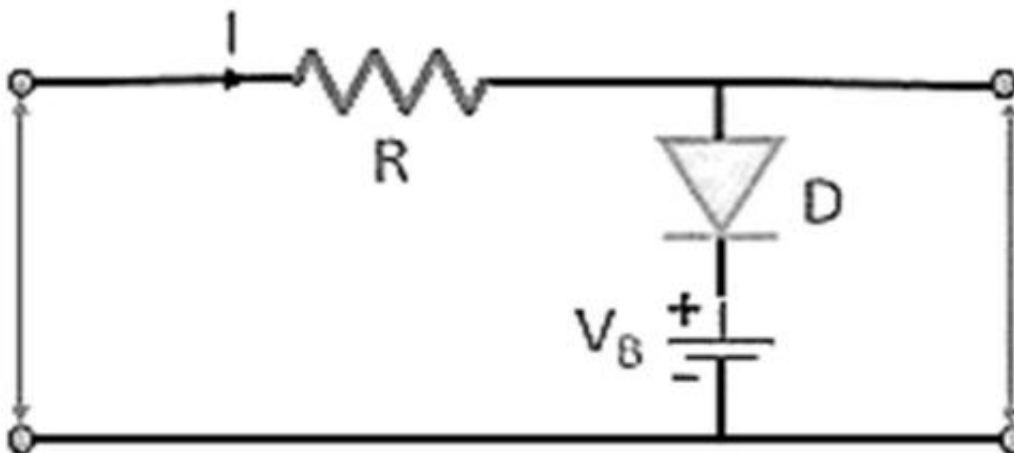
devices. As electronic devices are voltage sensitive and voltage of large amplitude can permanently destroy the device. So, to protect the device clipper circuits are used.

CIRCUIT DIAGRAM:

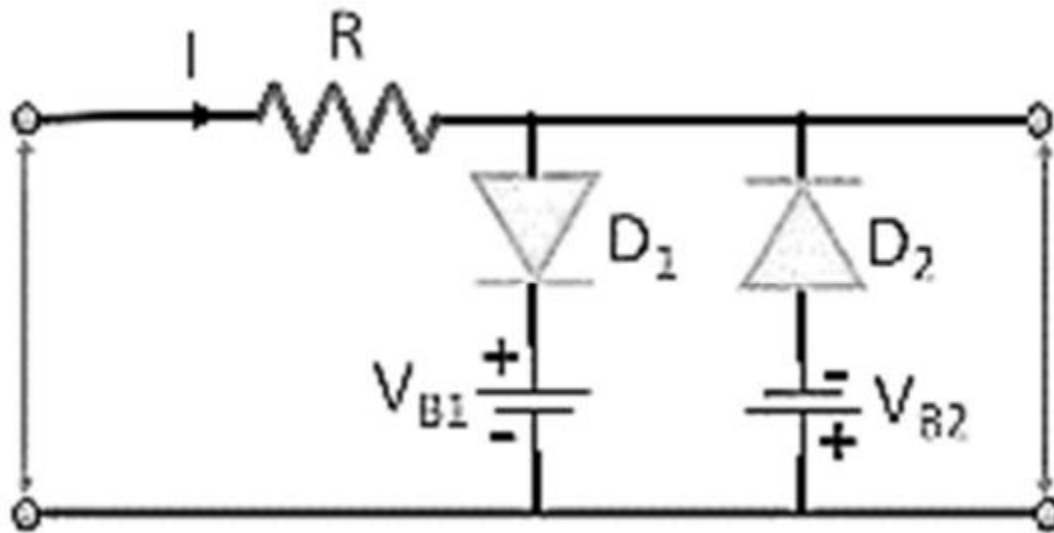
Negative clipper:



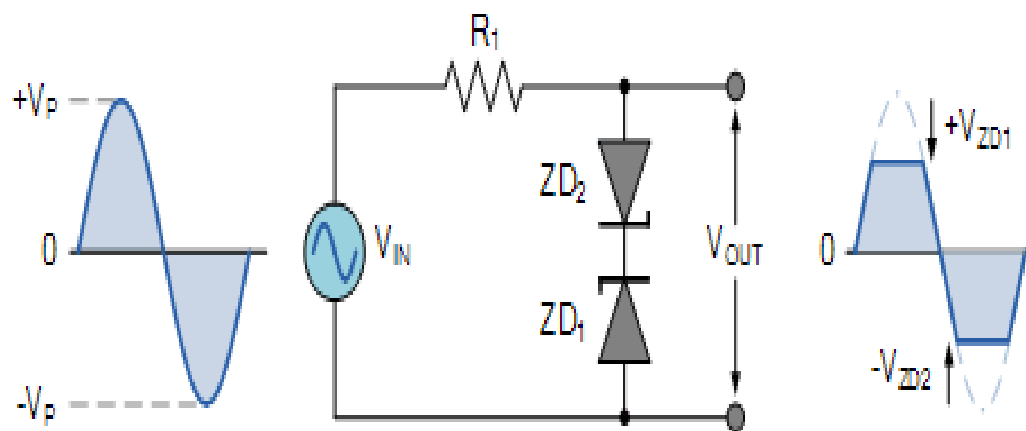
Positive clipper:



Dual clipper:

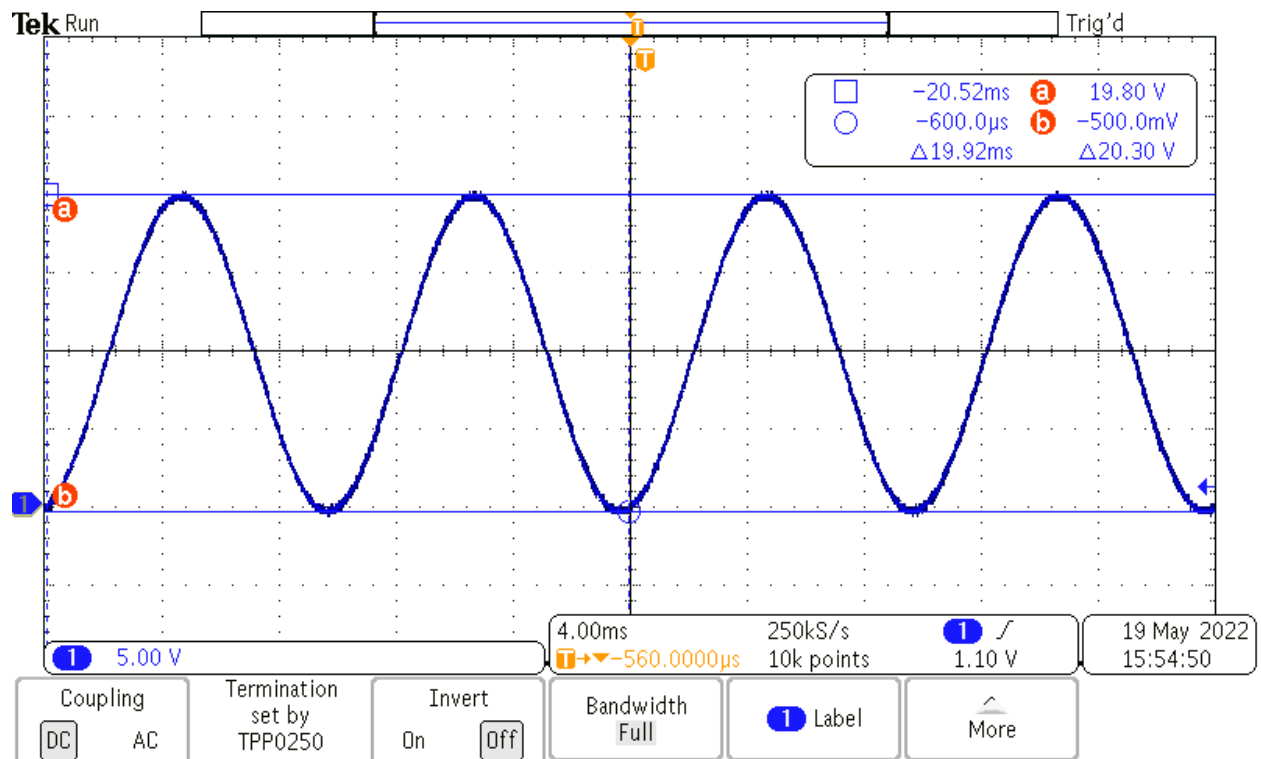


Using Zener diode:

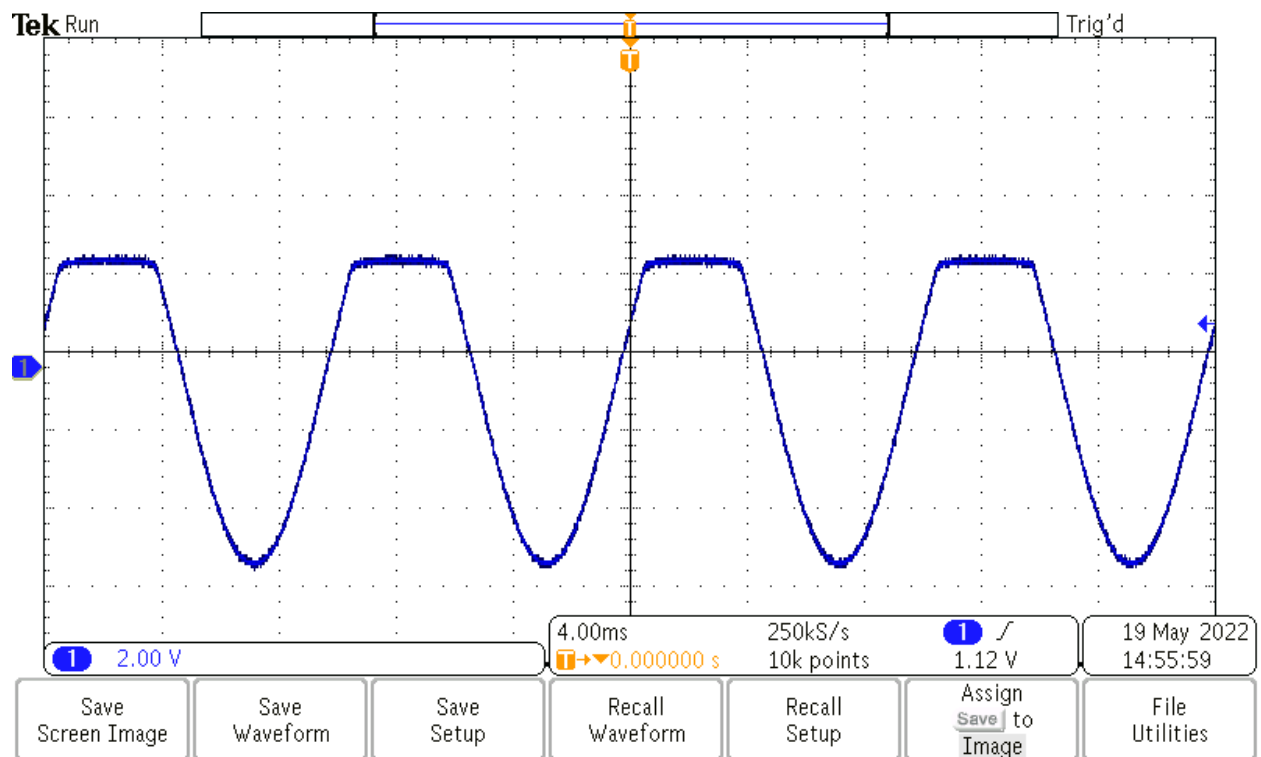


OBSERVATIONS:

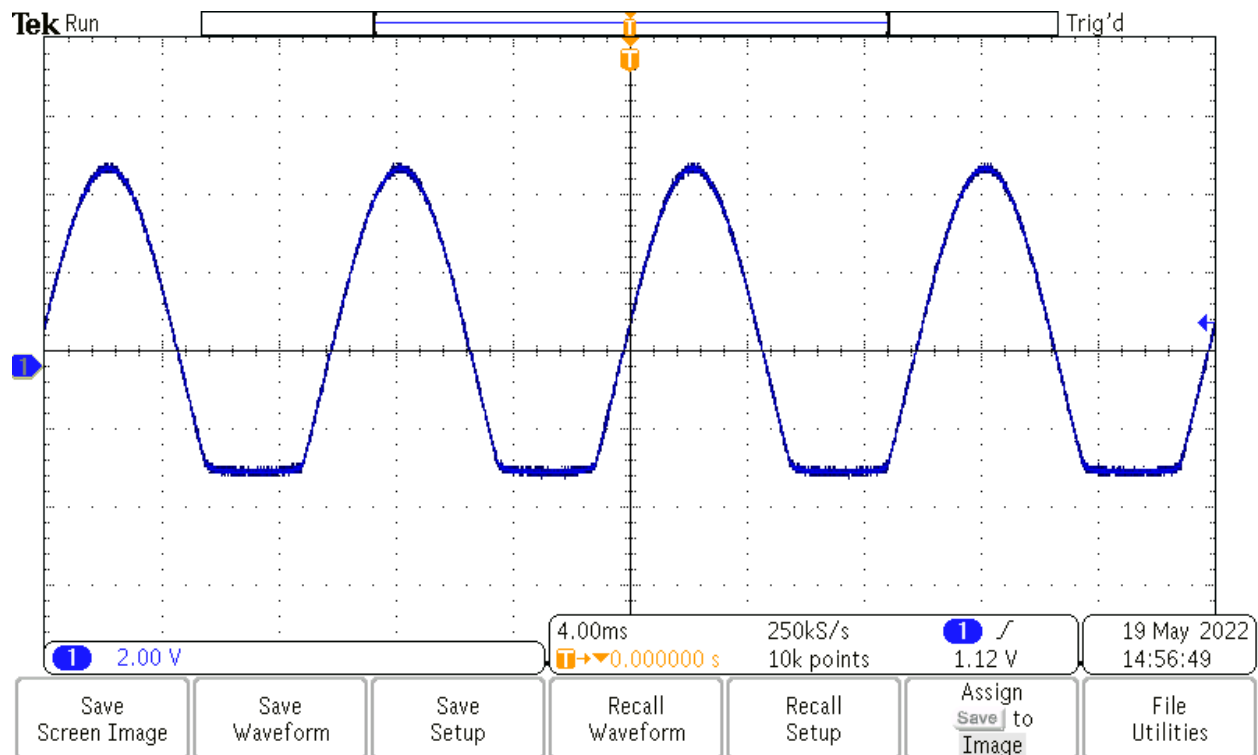
INPUT:



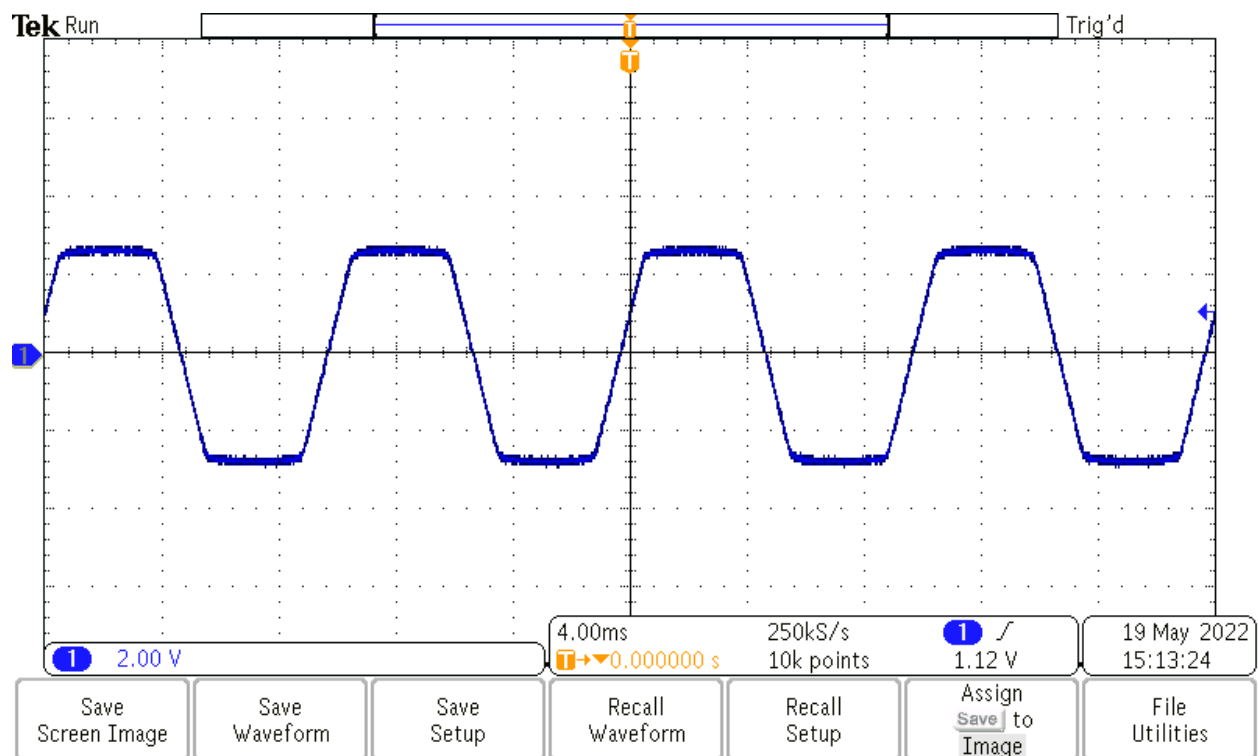
OUTPUT OF POSITIVE CLIPPER:



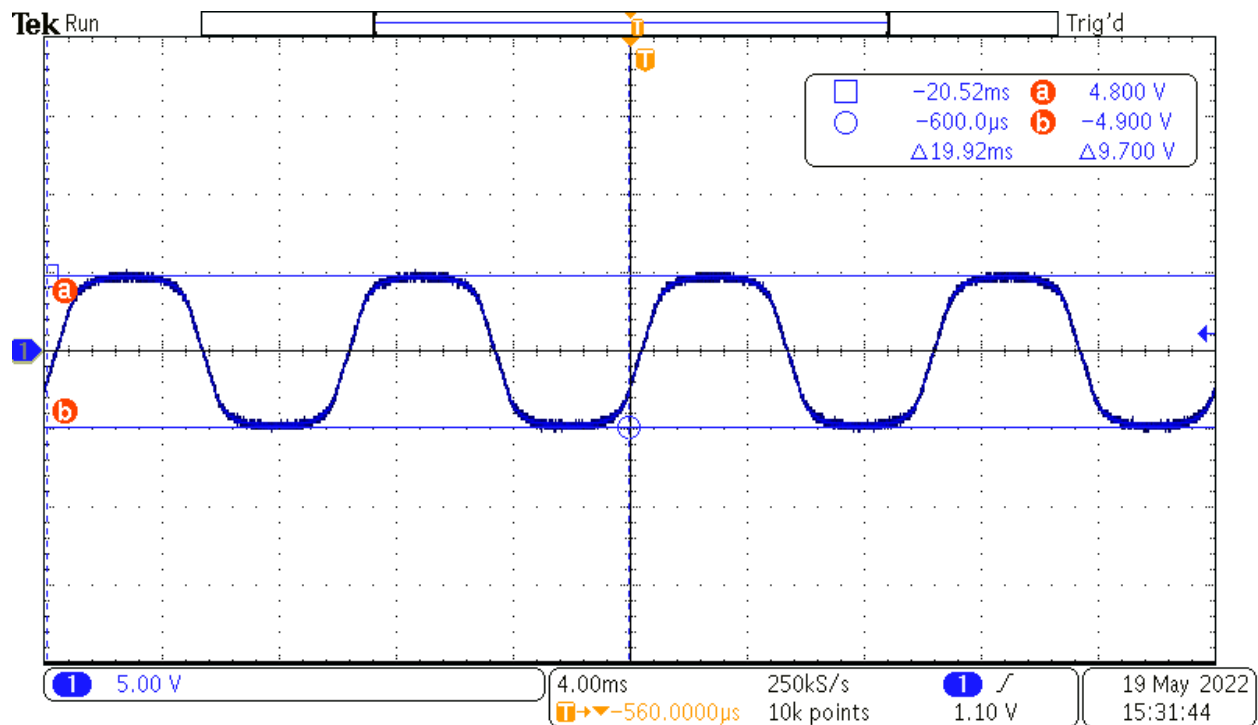
OUTPUT OF NEGATIVE CLIPPER:



OUTPUT OF DUAL CLIPPER:



OUTPUT USING ZENER DIODE:



RESULT:

The output of the clipper circuit is observed.

PRECAUTIONS:

- Circuit must be complete with proper wiring.
- Circuit should not be shorted.
- Input voltage must not exceed the maximum value to avoid damage.