Feng Chia University

Electrical Engineering Fundamentals I Lab

Laboratory 11

Diodes Circuit Applications Clipper and Clamper

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I. Introduction

a. Understand the circuit structure and function of the clipper circuits and clamper circuits.

b. Understand the meaning of the voltage transfer characteristics (VTC).

II. Materials

a. DC Power Supply

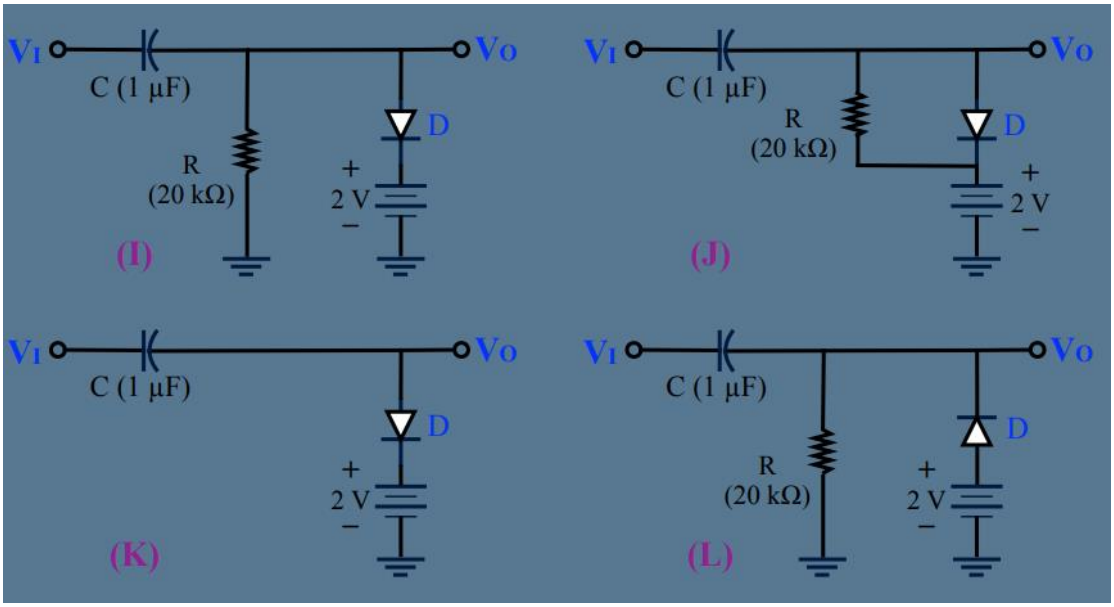
b. Waveform Generator

c. Digital Oscilloscope

d. Devices

1. Resistors: R = 20 kΩ × 1
   Capacitors: C = 1 μF × 1
   Diode: D = 1N4007 × 1

III. Circuit diagram



▲ Figure 1. Circuit of Experiment 11.c Clamper Circuits

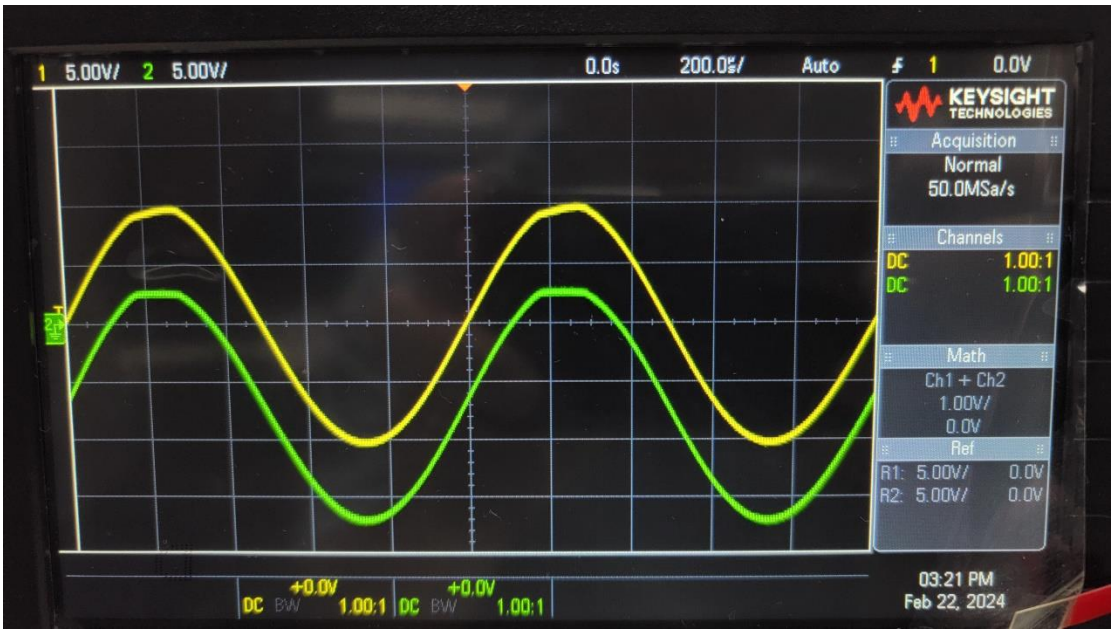
IV. Methods

Using Digital Oscilloscope to observe the wave through diode.

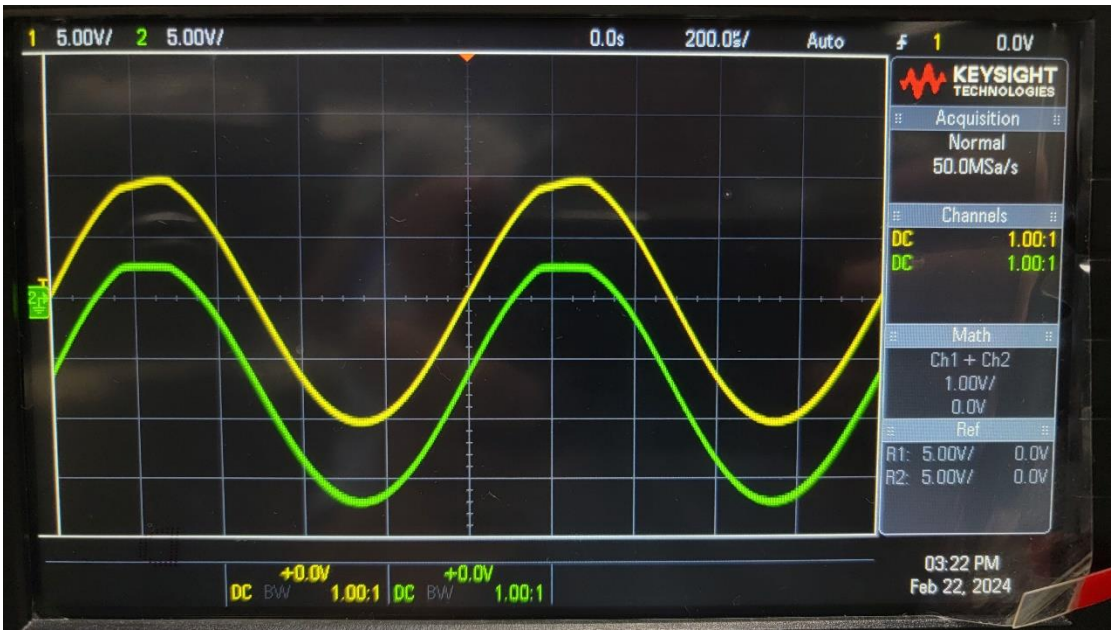
V. Experiments data

None

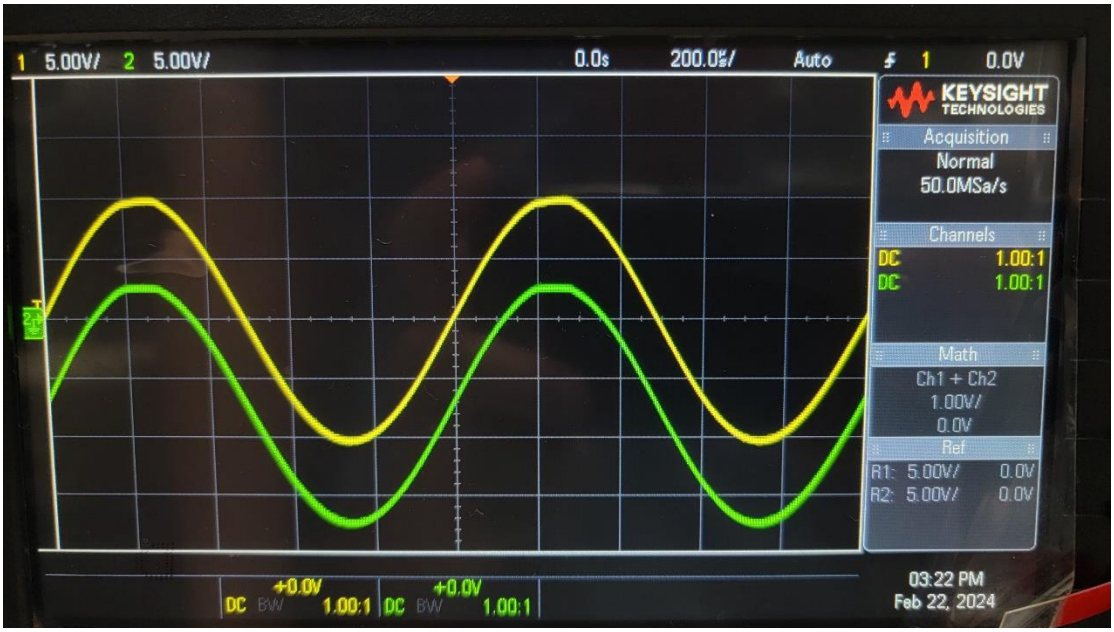
VI. Results



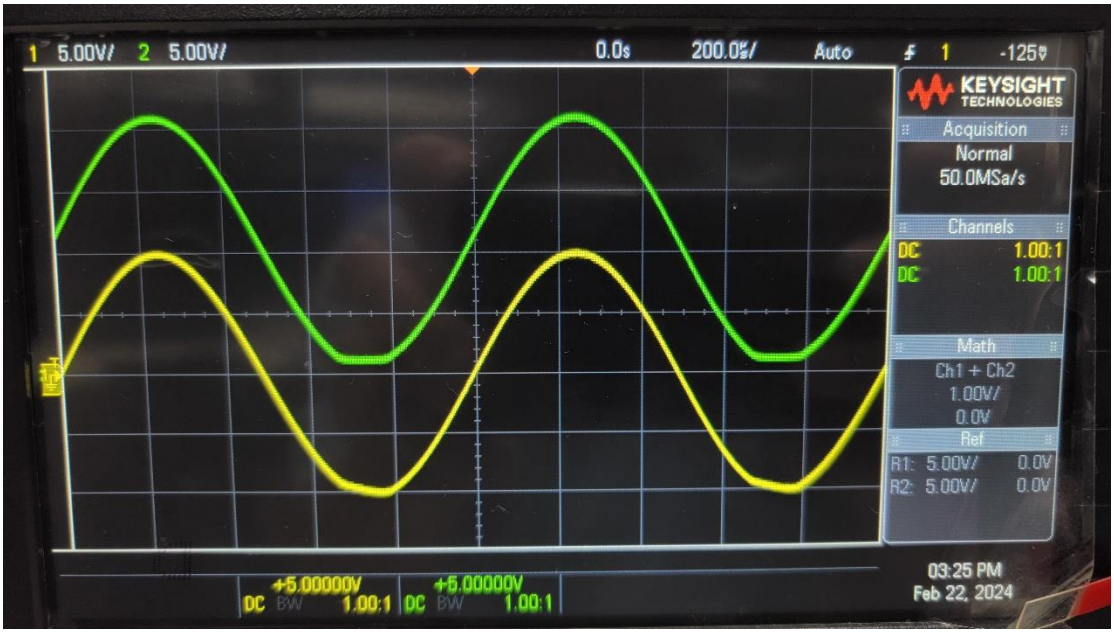
▲ Figure 2. Waveform comparisons of Experiment 11.c(I) with 1N4007



▲ Figure 3. Waveform comparisons of Experiment 11.c(J) with 1N4007



▲ Figure 4. Waveform comparisons of Experiment 11.c(K) with 1N4007



▲ Figure 5. Waveform comparisons of Experiment 11.c(L) with 1N4007

VII. Discussion

None

VIII. Conclusion

Diode clipper and clamper circuits are wave-shaping circuits that modify the input signal waveform by using diodes, resistors, capacitors, and biasing voltages.