

## Lab 3 - Diode Based Limiting and Clamping Circuits

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ECE 3110

October 8, 2024

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### 1 Introduction

In this report we analyze the circuits shown in Fig. 1 through computer simulation, then compare the results with measurements we record in the lab with the oscilloscope. All of these circuits are commonly used diode circuits and will produce unique outputs.

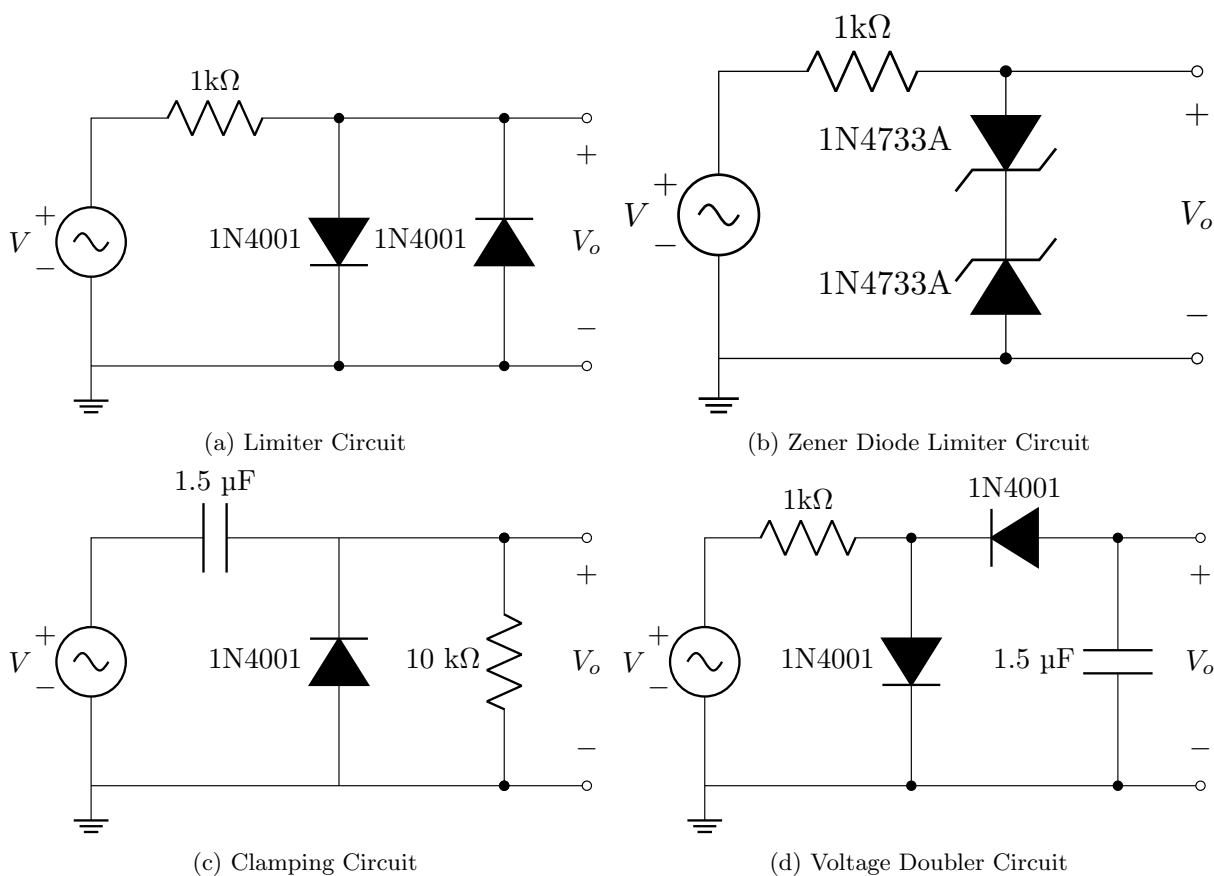
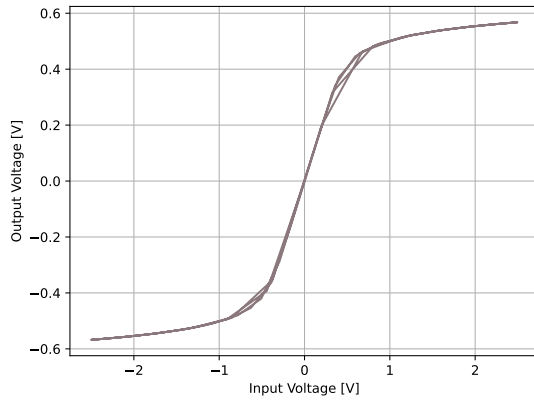
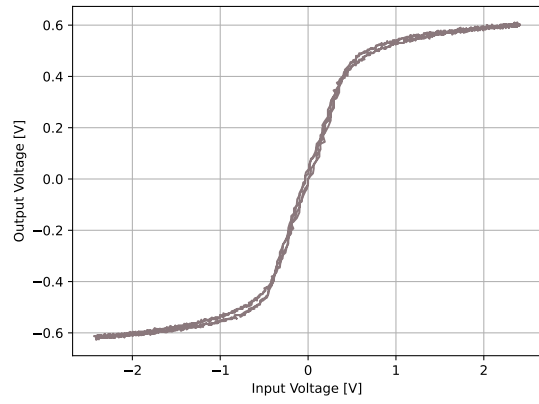


Figure 1: Circuits that are used in this lab.

### 2 Limiter Circuit



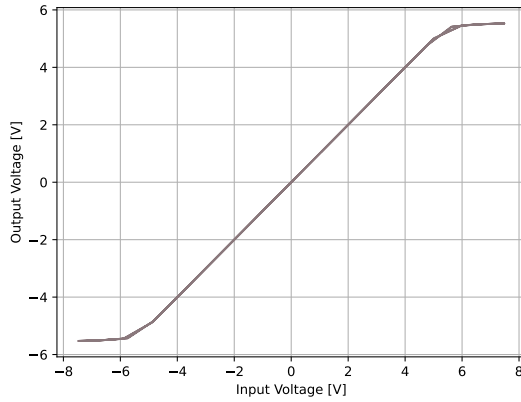
(a) Simulated



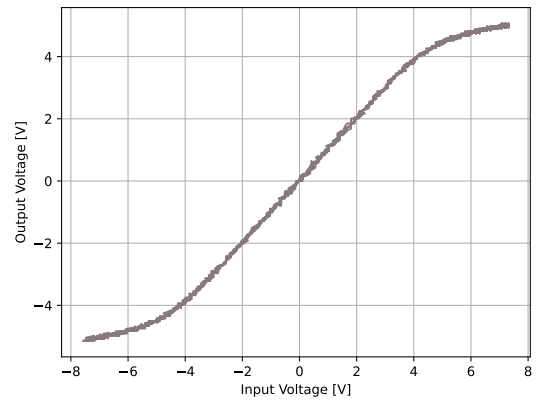
(b) Measured

Figure 2: Limiter Circuit Simulation and Measurements

### 3 Zener Diode Limiter Circuit



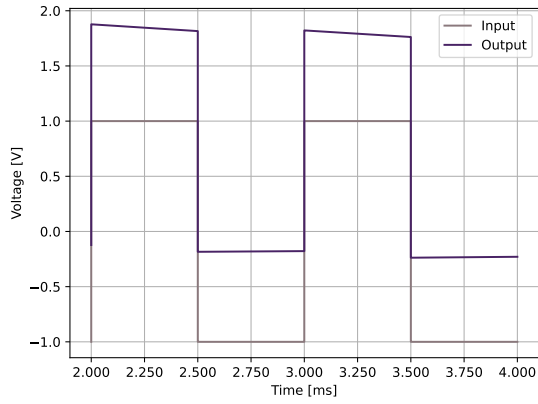
(a) Simulated



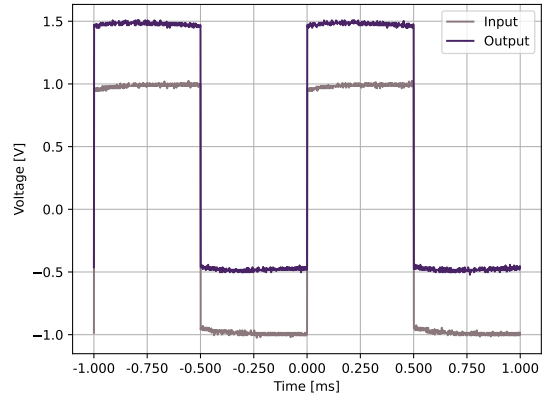
(b) Measured

Figure 3: Limiter Circuit Simulation and Measurements

### 4 Clamping Circuit



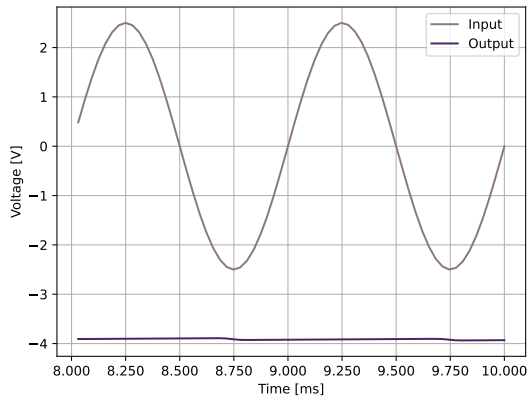
(a) Simulated



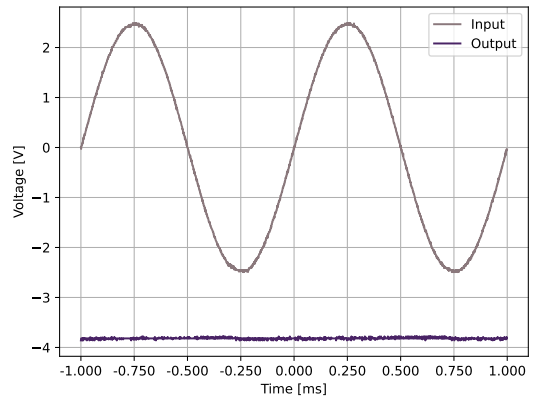
(b) Measured

Figure 4: Limiter Circuit Simulation and Measurements

## 5 Voltage Doubler Circuit



(a) Simulated



(b) Measured

Figure 5: Limiter Circuit Simulation and Measurements

## 6 Conclusion