

CAMBRIDGE UNIVERSITY ENGINEERING DEPARTMENT

Part IIA Laboratory Report

3B3 DC-DC Converters

Name: Yongqing Jiang

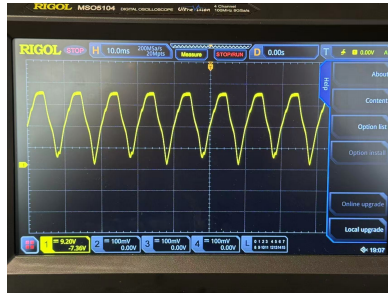
CRSid: yj375

College: Peterhouse

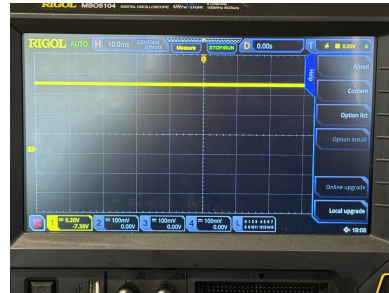
Date of Experiment: Nov 2025

Exercise 1: Diode Bridge AC-DC Rectifier

The scope readings for exercise 1 are shown by Figure 1.



(a) Reading of 1-2



(b) Reading of 1-3

Figure 1: Scope readings of Exercise 1

Exercise 2: DC-DC Buck Converter

The testing schematic of the DC-DC Buck Converter is shown by Figure 2.

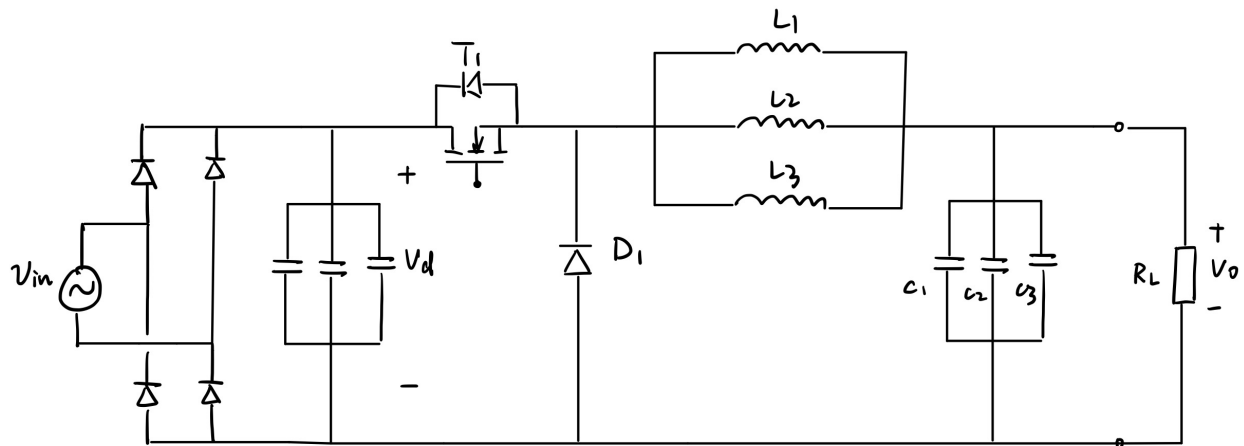
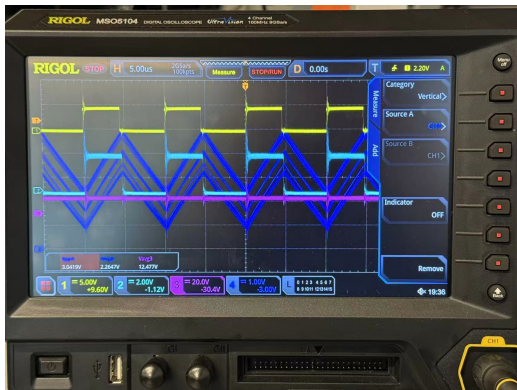


Figure 2: Schematic of DC-DC Buck Converter

The measurements are conducted by four channels of the oscilloscope.



(a) Reading of 2-2 with CH3 = 12V



(b) Reading of 1-3 with CH3 = 18V

Figure 3: Two subfigures with manual gap

Exercise 3: DC-DC Boost Converter