

CAMBRIDGE UNIVERSITY ENGINEERING
DEPARTMENT

Part IIA Laboratory Report

3B3 DC-DC Converters

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Exercise 1: Diode Bridge AC-DC Rectifier

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

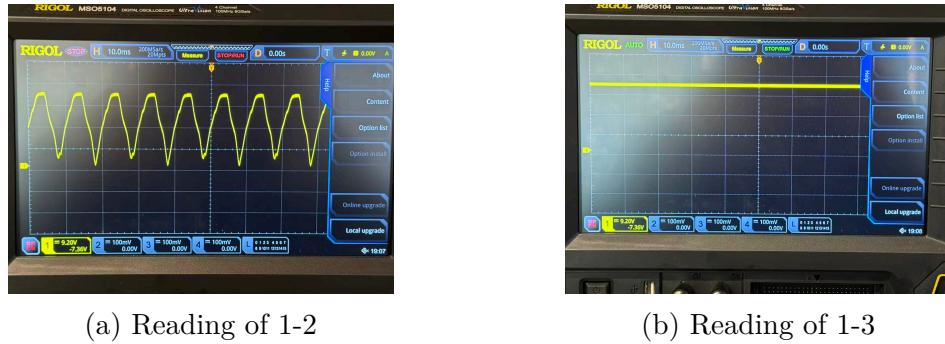


Figure 1: Scope readings of Exercise 1

Exercise 2: DC-DC Buck Converter

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

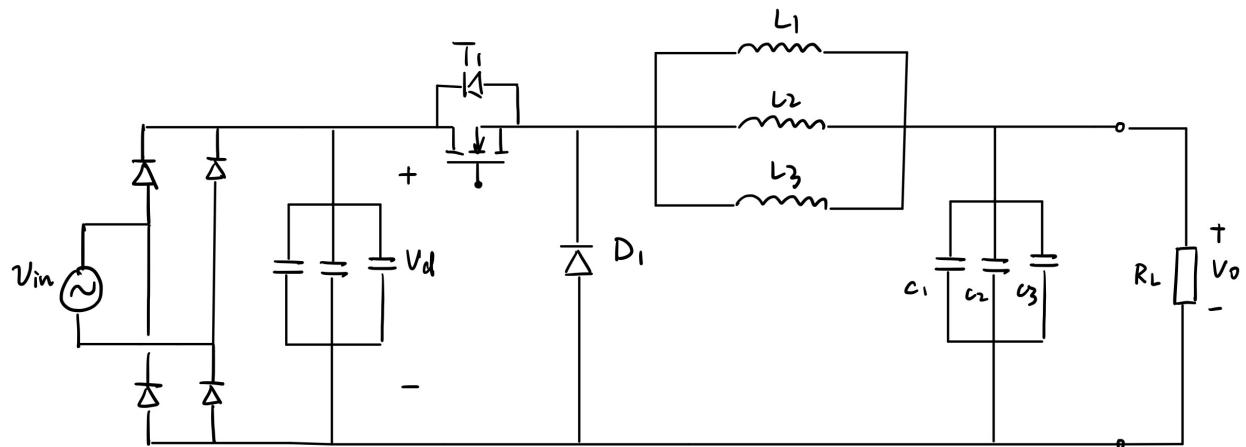
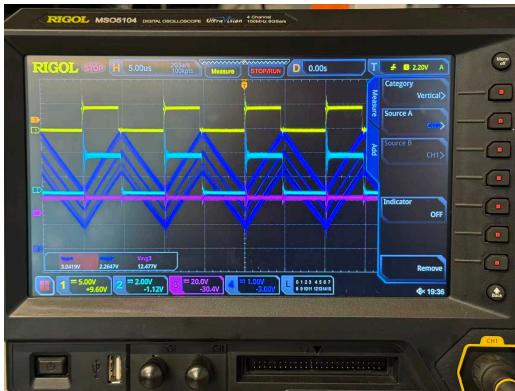


Figure 2: Schematic of DC-DC Buck Converter

The measurements are conducted by four channels of the oscilloscope.



(a) Reading of 2-2 with $\text{CH3} = 12\text{V}$



(b) Reading of 1-3 with $\text{CH3} = 18\text{V}$

Figure 3: Two subfigures with manual gap

Exercise 3: DC-DC Boost Converter