

CAMBRIDGE UNIVERSITY ENGINEERING  
DEPARTMENT

**Part IIA Laboratory Report**

**3B3 DC-DC Converters**

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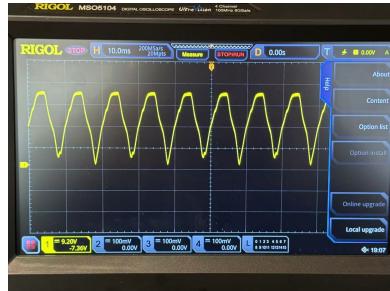
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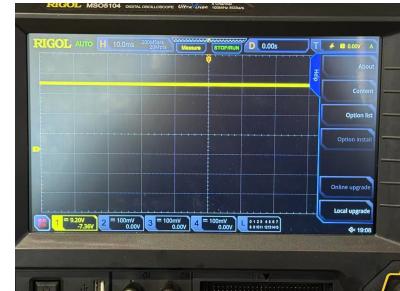
Date of Experiment: Nov 2025

## 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.

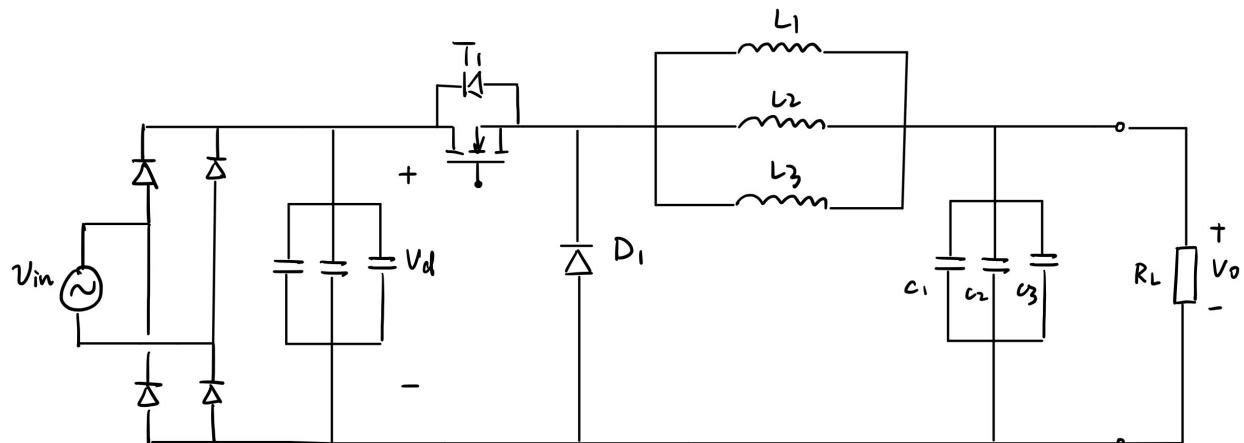


Figure 2: Schematic of DC-DC Buck Converter

The measurements are conducted by four channels of the oscilloscope.



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



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

Figure 3: Two subfigures with manual gap

### Exercise 3: DC-DC Boost Converter