Introductory Experiments and Linear Circuits I

Jung Lin (Doris) Lee [Lab Partner: Leah Tom]
Prof. William Holzapfel, GSI Thomas Darlington, Thomas Mittiga, John Groh, Victoria Xu, Jonathan Ma, Francisco Monsalve, Xiaofei Zhou

January 29, 2015

Abstract

In this lab, we explore —— BSC

1 Introduction

1.1 aeoigjaeorgja erpg

1.2 sdcC

1.3

1.4

2 Keithley 2110 Digital Multimeter3

- uncertainty The range should be adjusted suitable range within — for each measurement , within order of magnitude. [1]

3 BSC Laboratory Breadboard Box

4 Digital Oscilloscope

voltage on the vertical axes and time on the horizontal axes

4.1 Tune-able Parameters and useful functions

- AC/DC Setting : (See Sec.6.1)
- Scale: Vertical and horizontal zoom in ; adjust accordingly to — window that best captures
- Measurement: useful quantities

[1] Too large a range will result in the error "OVLRD" (overload) and too low will cause —

5 Arbitrary Waveform Function Generator

6 Frequency and time measurements

6.1 AC measurement

7 Thevinin Equivalence

7.1 2.1.13

7.2 2.1.14

Given $v = 2/3c$, Δ d = 10ft = 30.48m :

$$\Delta t = \frac{\Delta d}{v} = \frac{30.48m}{\frac{2}{3} \times 299792458m/s} = 1.525ns \tag{1}$$

By comparing the difference between the signals in Fig. —— peak-to-peak

8 Conclusion

9 Acknowledgments