UNIVERSITY OF CALIFORNIA AT BERKELEY

College of Engineering

Department of Electrical Engineering and Computer Sciences

EE105 Lab Experiments

Experiment 8: Single Stage Amplifier

Lab Report

Student 1 name:

Student 2 name:

Lab group: Tuesday 8-11 / Tuesday 5-8 / Thursday 8-11 / Thursday 5-8

# Lab Worksheet

Submit the lab worksheet to Gradescope.

# Biasing with Rs=0, 20KHz BW spec

* + 1. Set Rg2 to achieve a 1mA of current through the transistor. Measure your DC gate voltage Vg and observe the transistor current over time? Is it increasing or decreasing? Why?

# Biasing with Rs≠0, 20KHz BW spec

* + 1. Why is the output swing decreasing for higher input voltages?
    2. Attach a Bode plot of the gain and mark Amid, fL and fH on the curve. Record from 10Hz to 100kHz with 4 points per decade.
    3. Record the output waveform showing output swing.
    4. Fill in the component values and the results in the table in your lab worksheet.
    5. What is the measured total current consumption of the amplifier? What part of it is the transistor and what part is the Rg1,Rg2 biasing?

# Biasing with Rs≠0, 40KHz BW spec

* + 1. Attach a Bode plot of the gain and mark Amid, fL and fH on the curve. Record from 10Hz to 100kHz with 4 points per decade.
    2. Fill in the component values and the results in the table in your lab worksheet.
    3. What is the measured total current consumption of the amplifier? What part of it is the transistor and what part is the Rg1,Rg2 biasing?