

EE105 Lab Experiments

Report 9: MOS Characterization and Amplifiers

Name:

Lab Section:

3.1.2 Attach your printout.

3.1.3 Approximately what criterion determines the boundary between saturation and triode?

3.1.4 Properties (Part 1)

$g_m =$

$r_o =$

Region of Operation:

3.1.5 Properties (Part 2)

$g_m =$

$r_o =$

Region of Operation:

3.2.1 Channel Length Modulation Factor

$\lambda =$

3.2.3 Attach plot of $(I_D)^{\frac{1}{2}}$ vs. V_G .

3.2.4 Find K_n .

$K_n =$

3.2.5 Find V_{TH} .

$V_T =$

3.3.2 Identify the two amplifier stages.

3.2.3 Find the DC bias of V_{IN} for maximum gain. Find the gain and output swing at this bias point. What problems might we encounter with biasing exactly at the point of maximum gain?

$V_{IN} =$

$A_v =$

Output Voltage Swing:

3.3.4 What problems might we run into if the resistor were too big or too small?