

# EEEE 381 - Electronics I

## Technical Memorandum

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**To:** To: Tyler Nicholson — Section L3  
**Date:** Performed: 04-03-2015; Due: 04-17-2015  
**Subject:** Lab #4: MOSFET Differential Pair with Active Load

### Abstract

This is a paragraph. use a double backslash to start a new one.  
 like that. (In the tex document)

### Theory

The circuit used for this exercise is shown in figure 1.

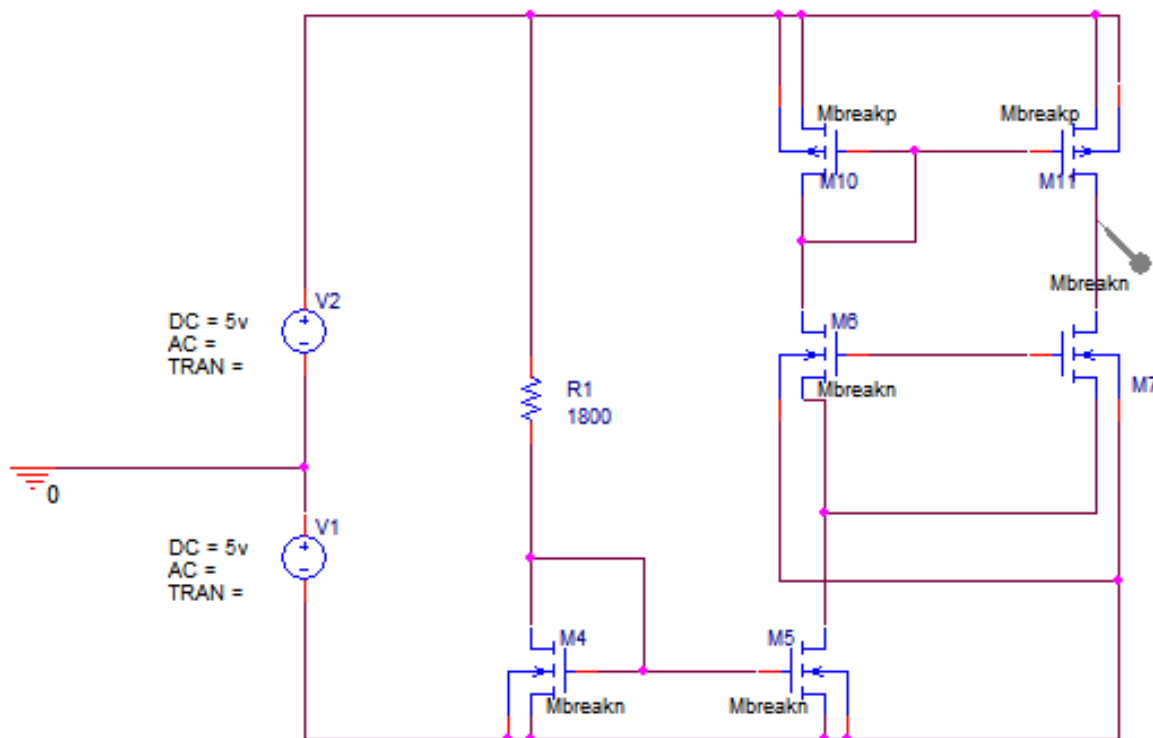


Figure 1: Basic Amplifier Circuit

That is an image with an included reference. Using references will make it easy. Below are equations. Note that math mode doesnt need to be entered for the actual equation. Argument format is reference, equation and the caption.

$$A_d = (frac{v_o}{v_{diff}}) = g_m(r_{o2}||r_{o4}||R_L) \quad (1)$$

Equation 1: Equation for the Calculation of the Differential Gain

$$A_{CM} = (\frac{v_o}{v_{cm}}) \approx -\frac{1}{2g_{m3}R_o} \quad (2)$$

Equation 2: Equation for the Calculation of the Common Mode Gain

## Results

THis is how a new section is made.

Speaking of making, provided is a makefile that will run latex the appropriate number of times and refresh the pdf viewer.

I use this in arch linux and need xpdf, texstudio and make installed. I have the editor open in one tab and make running an another. When I write, it refreshes the pdf.

## Conclusion

An appendix can be added the same way.