

*Lecture 18 -- MOS Physics and Design*

How does channel length modulation come into our MOSFET current equation before we make an approximation? After?

What is responsible for base length modulation in a BJT? Why does that change the BJT current?

What is the backgate (or body) effect?

Write an expression for the threshold voltage in the presence of a body-to-source voltage

How does the backgate effect change the small signal model of the MOSFET?

What is overdrive voltage?

Write an equation that relates overdrive, transconductance and bias current.

How does overdrive help you to find bias points in a MOS circuit?

What is velocity saturation?

What is leakage current?

What is an expression for subthreshold conduction? What does the ratio between gate capacitance and body depletion capacitance have to do with it?

What are short channel effects?