E151 Lecture 6 Handout

Draw large signal models for the four regions of operation of a BJT, include both T shaped and U shaped versions of the circuits and explain their relation to one another.

What is base width modulation and why do we care?

Draw iC-vBE curves and iC-vCE curves that capture large signal BJT behavior. Include base-width modulation effects.

What is the reverse active region? What does BJT breakdown look like? Consider a graph.

When you're building a biasing circuit for a BJT device what variable do you usually try to control? Draw a circuit that does this.

If you assume your BJT is in FAR, how can you check your assumptions and verify that you are not operating in saturation?

Draw a small signal model for an NPN transistor. How did you derive each value?

What's a typical way to get small signals into a biased BJT? What's the mid-band?