

*Lec 03 – Two Port Intro and Diodes*

What is the attenuation of a 10x probe and why do we want that attenuation?

What two things must be true of a network for it to be modeled as a 2 port?

What are the four terminal variables in a 2 port network?

Write the matrix representation of z-parameters

How are we going to avoid doing two port modeling?

How is a diode constructed in a semiconductor? Consider a cartoon.

What is the depletion region? How is it formed? Why is it important?

What is the formula for a diode's i-v relation?

What is the thermal voltage? What is its value at room temperature?

What is avalanche breakdown and how is it used in circuits?

What physical phenomenon causes junction capacitance?

Does a junction capacitance increase or decrease with a forward bias on a diode? Why?