

*Lec 03 -- Dynamics Cleanup, Diodes*

At what frequencies does a capacitive divider work?

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

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

Where is the Fermi level in a conductor?

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?

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

Draw a circuit for setting the current in a diode and calculate how much current is flowing using a switch/voltage-source model.

Draw an envelope detector and the output voltage when it is excited by a sinusoidal input. Again, assume a switch/voltage-source model