

Lecture 09 -- Emitter Degeneration, Emitter Followers, Multistage Amplifiers

Draw a modified common emitter amplifier which uses a capacitor to bypass the tradeoff between gain and offset voltage in the mid-band.

Draw a common emitter amplifier with an active load.

Draw an emitter degenerated common emitter amplifier.

What are R_{in} and A_v for an emitter degenerated common emitter amplifier?

What R_{out} for an emitter degenerated common emitter amplifier? Does r_o change?

Draw an emitter follower and list two common uses of the amplifier.

What is are R_{in} , R_{out} and A_v of an emitter follower?

Draw the small signal model of a multi-stage amplifier by using general 2-port amplifier models. Include a source resistance and a load resistance.

What is the total gain of a multi-stage amplifier?

What are two tips to improve bias point stability?