

Lecture 13

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- General Amplifier Analysis Procedure
 - DC bias circuit analysis/design
 - * Consider only DC sources (remove AC sources)
 - * Ensure operation in the active region
 - * Take desired Q-point parameters into account (g_m , r_π , etc.)
 - AC Analysis
 - * Draw the AC equivalent circuit with the appropriate BJT model
 - * Consider only AC sources (remove DC sources)
 - * Midband (medium-frequency AC analysis):
 - Capacitor \rightarrow short-circuit, inductor \rightarrow open-circuit
 - * Frequency-dependent analysis
 - Capacitor and inductor go to their frequency-dependent impedances
 - Removal of Sources
 - * Voltage source \rightarrow replace with a short-circuit
 - * Current source \rightarrow replace with an open-circuit