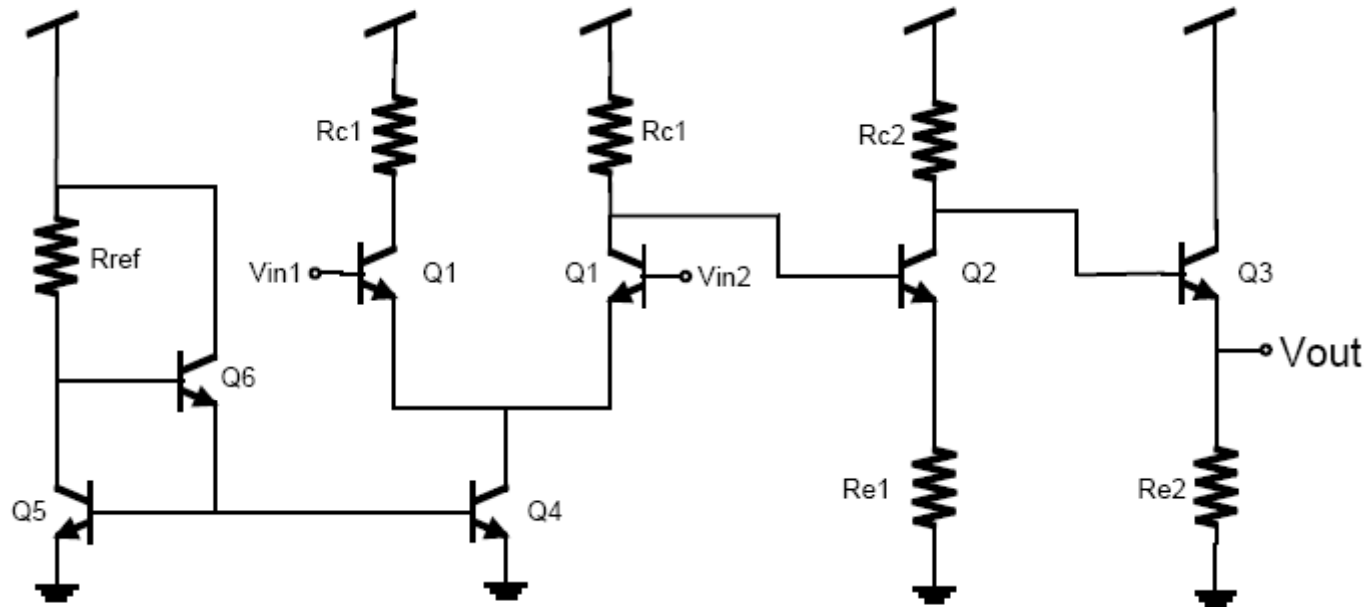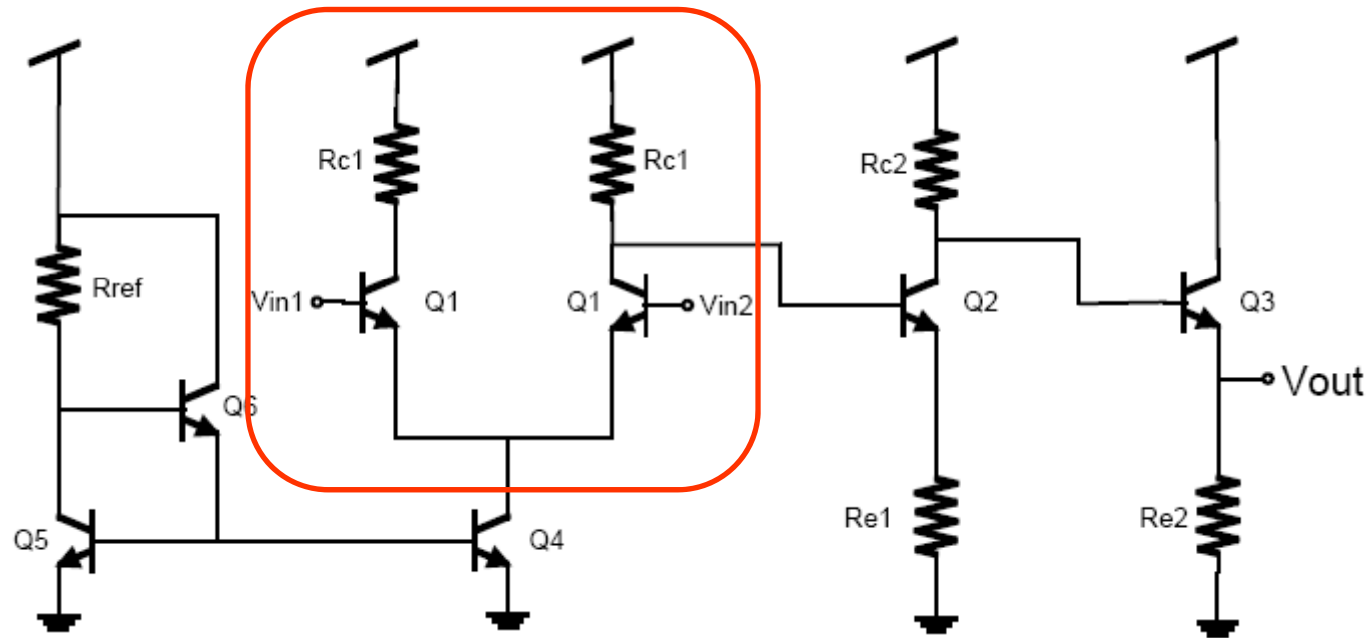# Lect. 18: Design Project

Current source: Determine R_{ref} for desired currents in differential amplifier (Lect. 15)

Initially, use 0.7 V drop for BE junction
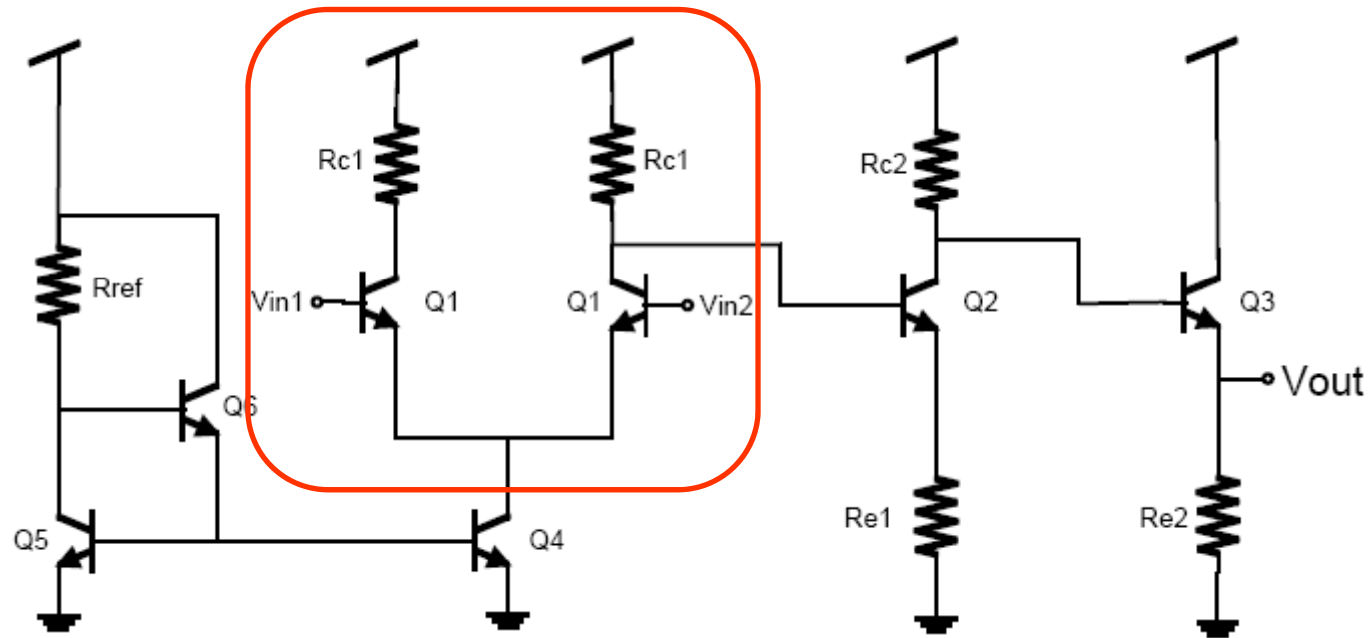
Then, use I_s for better accuracy

- Diff. Amp:
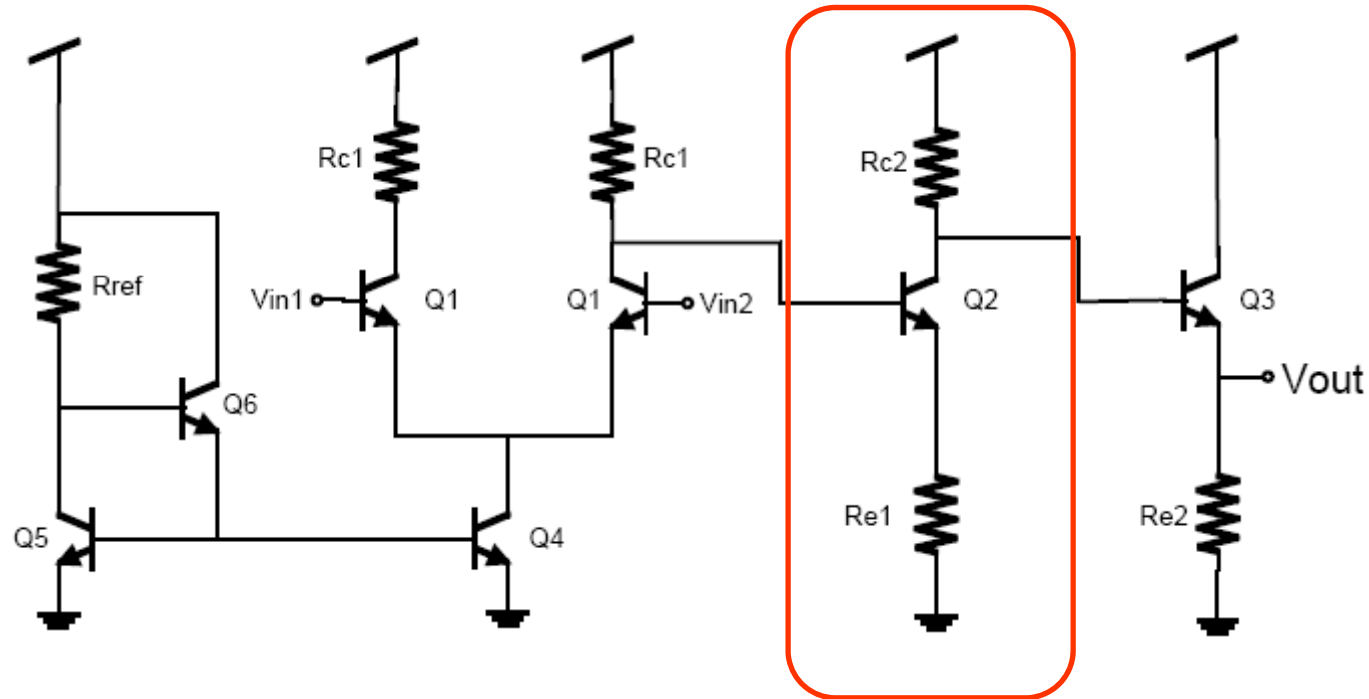
   Input resistance: r_π

   Input common-mode range

- Diff. Amp:

Gain: small-signal model
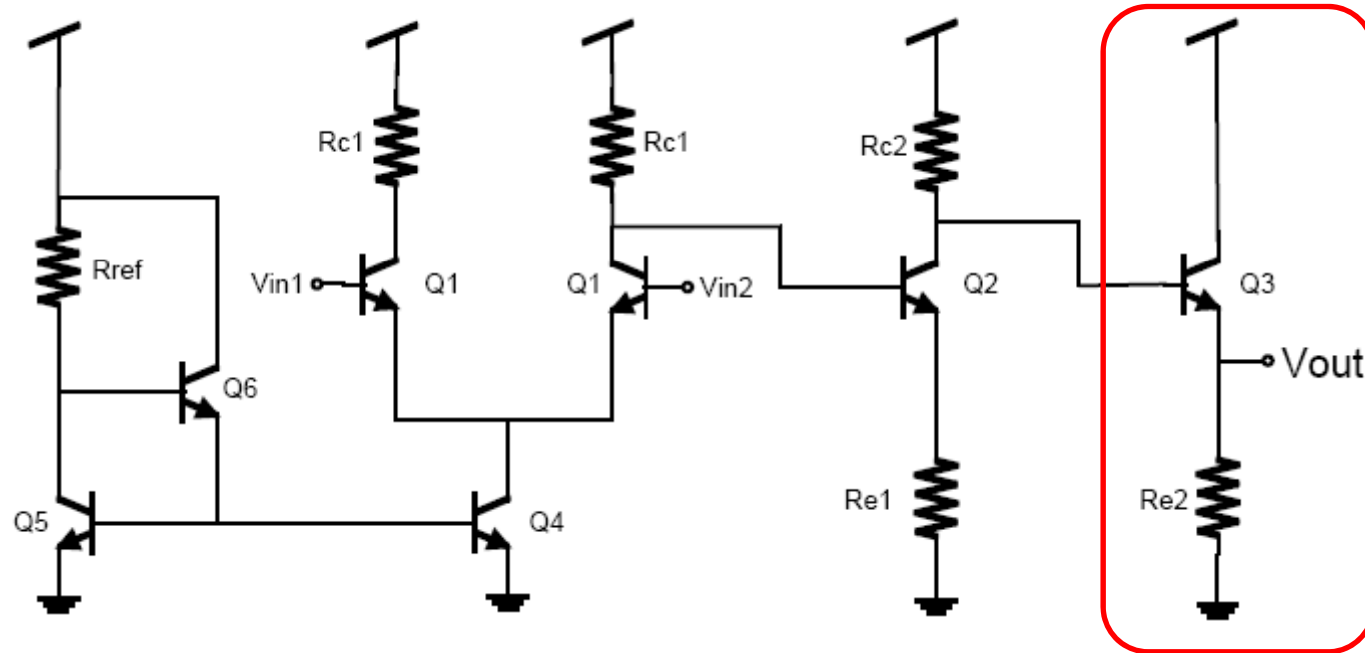
- Common Emitter with emitter resistance:
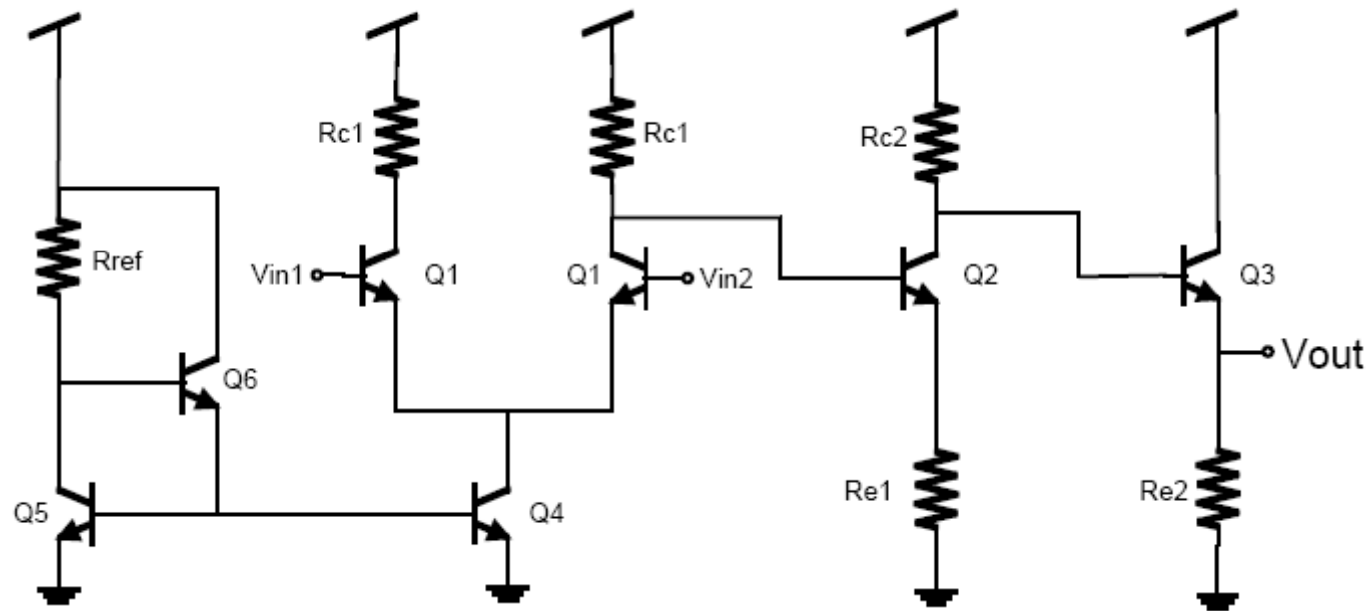
    Input resistance:

    Gain:
    Output resistance:

- Emitter follower:

    Output resistance:

- Power consumption: