

Experiment 8: Mixer

- 1) Determine the base current of BC107A for a collector current of 1mA in active region.
- 2) If the base of the transistor is biased with a voltage source V_{th} in series with a resistor R_{th} , what is the maximum value of R_{th} such that the base voltage is within 10mV of V_{th} ?
- 3) In the circuit below, derive the constraints on the capacitor values given the RF and LO frequencies. You can assume zero base currents for the transistors.

