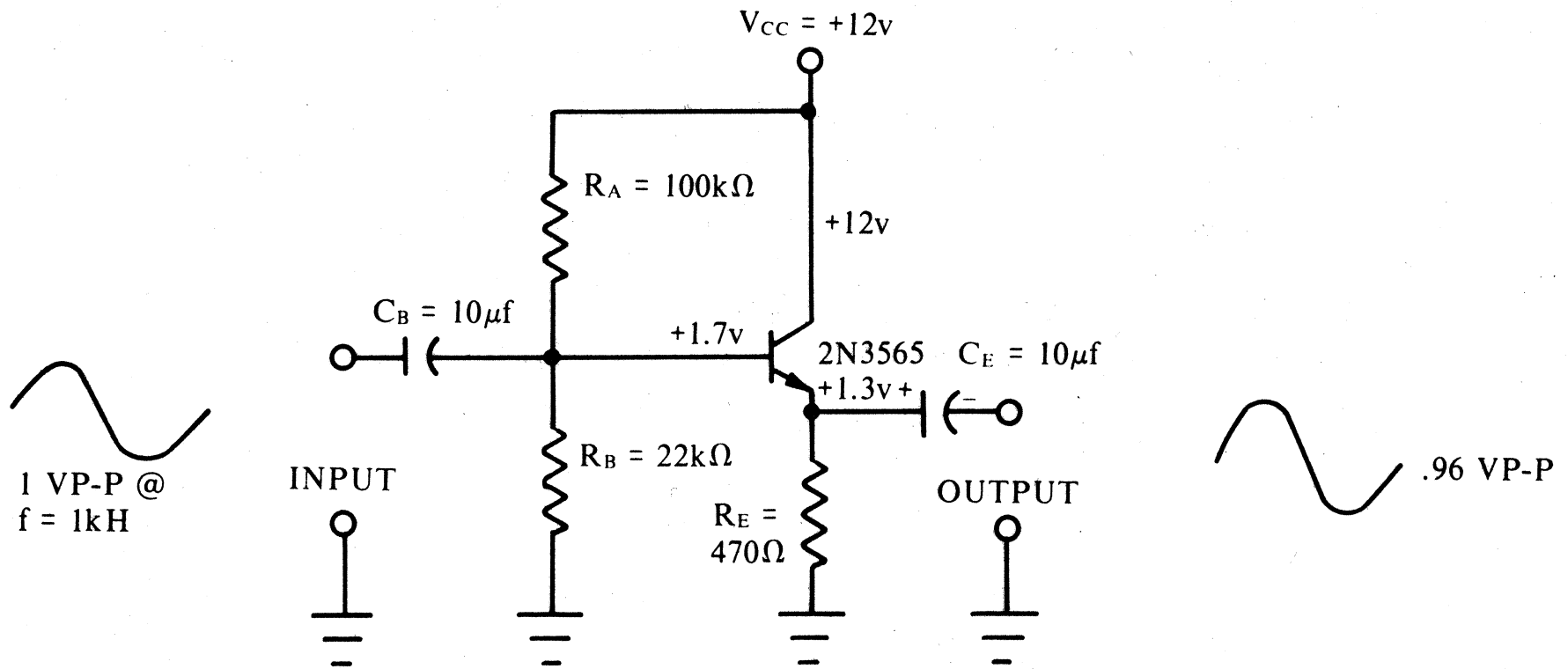


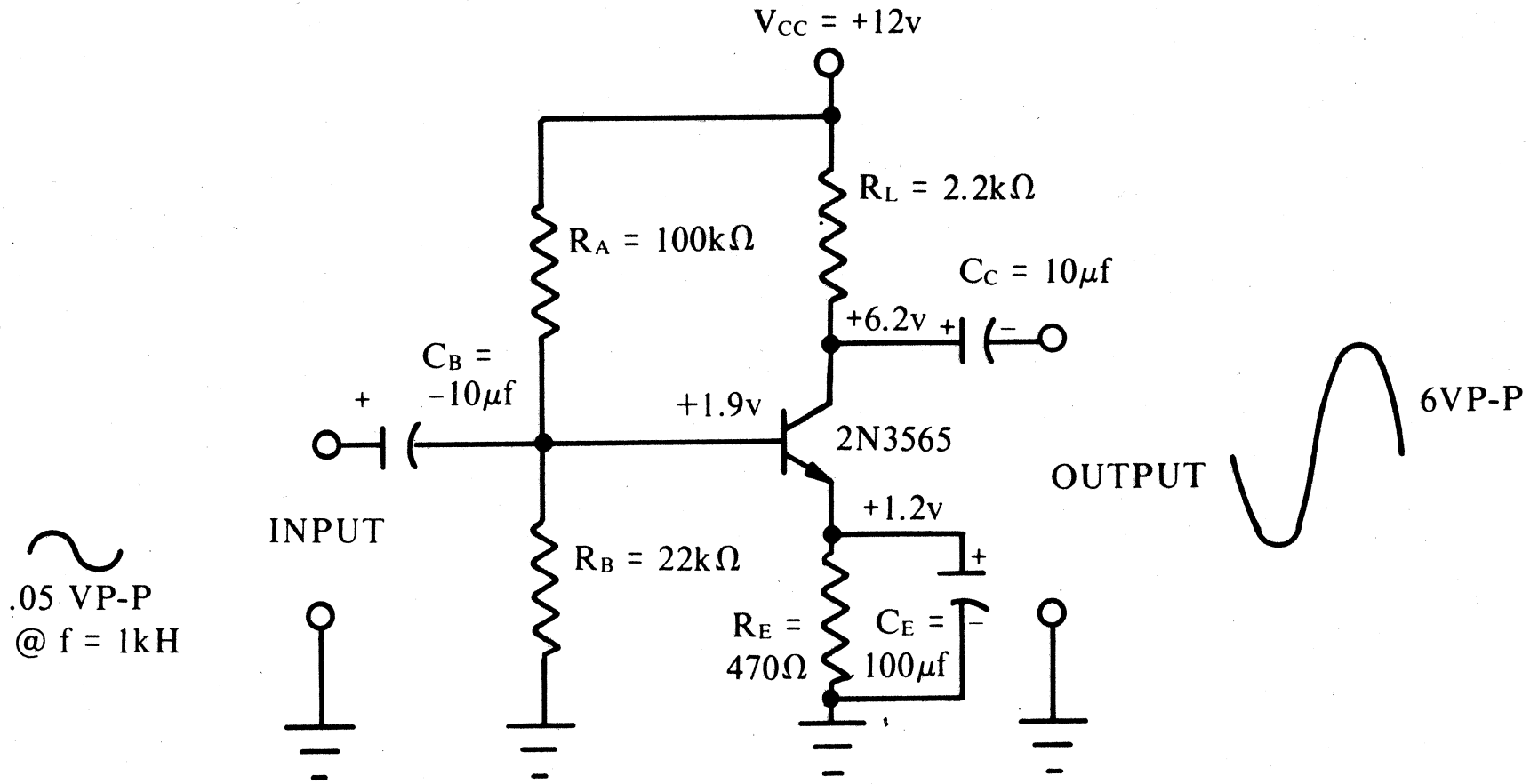
Current Gain: No, A_i (alpha) = I_C / I_E (less than one $\approx .90 - .99$)
 Voltage Gain: Yes, $A_v = \Delta V_c / \Delta V_e = 3.25 \text{ vp-p} / .03 \text{ vp-p} = 108$
 Power Gain: Yes, $A_p = A_i \times A_v$ Moderate compared to other circuits
 Input Impedance: Lowest ($50-500\Omega$) compared to other circuits
 Output Impedance: Highest ($\approx 300k-1M\Omega$) compared to other circuits
 Phase Inversion: No
 Basic Uses: Used least, but serves well for impedance matching and RF amplifiers

Common Base Amplifier



Current Gain: Yes, A_i (gamma) = I_E / I_B
 Voltage Gain: No, $A_v = \Delta V_c / \Delta V_b$ (less than one $\approx .90 - .99$)
 Power Gain: Yes, $A_p = A_i \times A_v$ lowest compared to other circuits
 Input Impedance: Highest (20k-300k Ω) compared to other circuits
 Output Impedance: Low ($\approx 300-500\Omega$) compared to other circuits
 Phase Inversion: No
 Basic Uses: Impedance matching and buffer amplifier

Common Collector (Emitter Follower) Amplifier



- Current Gain: Yes, A_i (beta) = I_C / I_B
- Voltage Gain: Yes, $A_v = \Delta V_c / \Delta V_b = 6\text{ vp-p} / .05\text{ vp-p} = 120$
- Power Gain: Yes, $A_p = A_i \times A_v$ Highest compared to other circuits
- Input Impedance: Moderate ($500\text{-}1\text{k}\Omega$) compared to other circuits
- Output Impedance: Moderate ($\approx 50\text{k}\Omega$) compared to other circuits
- Signal Phase Inversion: Yes (180°)
- Basic Uses: Switch, regulator, amplifier, and oscillator

Common Emitter Amplifier