

Student Assignments

- The emitter is at ac ground in a
 - CB stage
 - CE stage
 - CC stage
 - None of these
- The output voltage of an emitter-bypassed CE stage is usually
 - Constant
 - Dependent on r_e'
 - Small
 - Less than one
- The voltage gain equals the output voltage divided by the
 - Input voltage
 - AC emitter resistance
 - AC collector resistance
 - Generator voltage
- The input impedance of the base decreases when
 - β increases
 - Supply voltage increases
 - β decreases
 - AC collector resistance increases
- Voltage gain is directly proportional to
 - β
 - r_e'
 - DC collector voltage
 - AC collector resistance
- Compared to the ac resistance of the emitter diode, the feedback resistance of a swamped amplifier should be
 - Small
 - Large
 - Equal
 - Zero
- Compared to a CE stage, a swamped amplifier has an input impedance that is
 - Smaller
 - Larger
 - Equal
 - Zero
- To reduce the distortion of an amplified signal, you can increase the
 - Collector resistance
 - Emitter feedback resistance
 - Generator resistance
 - Load resistance
- The emitter of a swamped amplifier
 - Is grounded
 - Has no dc voltage
 - Has an ac voltage
 - Has no ac voltage
- A swamped amplifier uses
 - Base bias
 - Positive feedback
 - Negative feedback
 - A grounded emitter
- In a swamped amplifier, the effects of the emitter diode become
 - Important to voltage gain
 - Critical to input impedance
 - Significant to the analysis
 - Unimportant
- The feedback resistor
 - Increases voltage gain
 - Reduces distortion
 - Decreases collector resistance
 - Decreases input impedance
- The feedback resistor
 - Stabilizes voltage gain
 - Increases distortion
 - Increases collector resistance
 - Decreases input impedance
- The ac collector resistance of the first stage includes the
 - Load resistance
 - Input impedance of first stage
 - Emitter resistance of first stage
 - Input impedance of second stage
- If the emitter-bypass capacitor opens, the ac output voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the emitter-bypass capacitor shorts, the base dc voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the collector resistor is shorted, the ac output voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the load resistance is open, the ac output voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero

- If any capacitor is open, the ac output voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the input-coupling capacitor is open, the ac input voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the bypass capacitor is open, the ac input voltage at the base will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the output-coupling capacitor is open, the ac input voltage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the emitter resistor is open, the ac input voltage at the base will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the collector resistor is open, the ac input voltage at the base will
 - Decrease
 - Increase
 - Remain the same
 - Equal approximately zero
- If the emitter-bypass capacitor is shorted, the ac input voltage at the base will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the input impedance of the second stage decreases, the voltage gain of the first stage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the BE diode of the second stage opens, the voltage gain of the first stage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero
- If the load resistance of the second stage opens, the voltage gain of the first stage will
 - Decrease
 - Increase
 - Remain the same
 - Equal zero

Problems

SEC. 10-1 VOLTAGE GAIN

- MultiSim** The ac source voltage of Fig. 10-13 doubles. What is the output voltage?
- MultiSim** If the load resistance is reduced by one-half in Fig. 10-13, what is the voltage gain?
- MultiSim** In Fig. 10-13, the supply voltage increased to +15 V. What is the output voltage?

SEC. 10-2 THE LOADING EFFECT OF INPUT IMPEDANCE

- MultiSim** The supply voltage of Fig. 10-14 increased to +15 V. What is the output voltage?

- MultiSim** If the emitter resistance is doubled in Fig. 10-14, what is the output voltage?

- MultiSim** If the generator resistance of Fig. 10-14 is reduced by one-half, what is the output voltage?

SEC. 10-3 MULTISTAGE AMPLIFIERS

- In Fig. 10-15, what is the ac voltage at the first base? At the second base? Across the load resistor?
- If the supply voltage is increased to +12 V in Fig. 10-15, what is the output voltage?
- If $\beta = 300$ in Fig. 10-15, what is the output voltage?

Figure 10-13

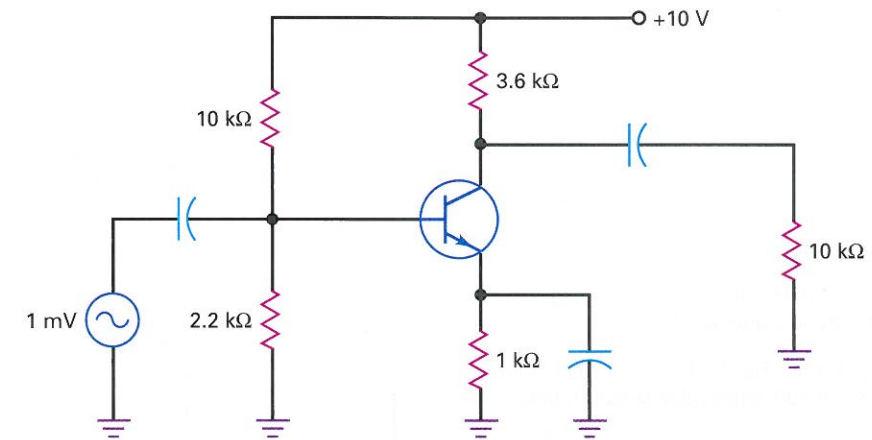


Figure 10-14

