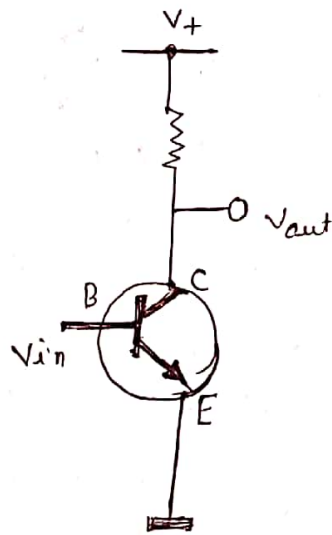


Common emitter amplifier (CE amplifier)

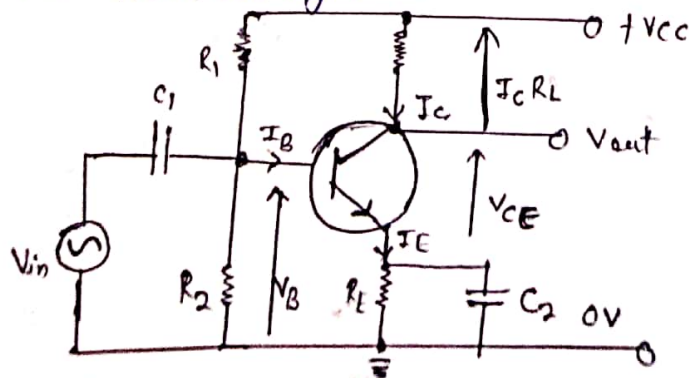
The common emitter amplifier is a three basic single stage Bipolar Junction Transistor and is used as a voltage amplifier. The input of this amplifier is taken from the Base terminal. The output is collected from the collector terminal and the emitter terminal is common for both the terminals. The basic symbols of the common emitter amplifier is shown below.



← [CE Amplifier symbols]

Working of common emitter amplifier.

The circuit diagram shows the working of the common emitter amplifier circuit and it consists of voltage divider biasing, used to supply the base bias voltage as per the necessity.



[CE amplifier circuit]

The voltage divider biasing has a potential divider with two resistors are connected in a way that the midpoint is used for supplying base bias voltage.

There are different type of electronic components in the common emitter amplifier which are R_1 resistor is used for the forward bias the R_2 resistor is used for the development of bias the R_L resistor is used at the output it is called as the load resistance. the R_E resistor is used for thermal stability. the C_1 capacitor is used to separate the AC signal from the DC biasing voltage and the capacitor is known as the coupling capacitor.

If the R_2 resistor increases then there is an increase in the forward bias and R_1 & bias are inversely proportional to each other. The alternating current is applied to the base of the transistor of the common emitter amplifier circuit then there is a flow of small base current hence there is a large amount of current flow through the collector. with the help of R_C resistance. the voltage near the resistance R_C will change because the value is very high and the values are from 4 to $10 \text{ k}\Omega$. hence there is a huge amount of current present in the collector circuit which amplified from the weak signal. therefore common emitter transistor circuit is an amplifier circuit.