

**Unit Name:** Power Electronics 2 Simulation 1

## **Title**

Transistor DC Biasing Circuits

## **Details**

The purpose of this experiment is to determine the DC operating point (Q-Point) for the transistor fixed-bias circuit, and the voltage divider bias circuit, and also to compare between their bias stabilities against changes in the transistor beta.

The analysis or design of a transistor amplifier requires knowledge of both the DC and the AC response. The analysis or design of any amplifier therefore has two components: the DC portion and the AC portion. In fact, the improved output AC power level is the result of a transfer of energy from the applied DC supplies.

The term biasing refers to the application of DC voltages to establish a fixed level of current and voltage. For transistor amplifier, the resulting DC current and voltage establish an operating point on the characteristics that define the region that will be employed for the amplification of the applied signal.