Unit Name: Power Electronics 1 Simulation 1

Title

Amplifier Frequency Response

Details

The purpose of this experiment is to evaluate the frequency response of a common emitter amplifier.

All amplifiers have a finite bandwidth. The low cutoff frequency can in some cases extend down to DC and is a parameter under direct control of the designer. The ultimate high frequency limit is determined by the physical characteristics of the components and the construction of the circuit.

A typical BJT common emitter amplifier is shown in Fig.1. The input signal source and load resistor are capacitively coupled to the amplifier via capacitors C_{c1} and C_{c2} respectively. The coupling capacitors C_{c1} and C_{c2}, emitter bypass capacitor CE, and internal transistor capacitances shape the frequency response of the amplifier.