BJT as Single and Two Stage CE Amplifier

Model : SD-146

SINCOM SD-146 BJT as Single and Two Stage CE Amplifier is very useful simply designed trainer to study the concept, operation, Frequency response and determine the Bandwidth, over all Voltage gain and other parameters of a BJT as a Single and Two stage RC coupled CE Amplifier in a simple experimental way.

Features

- BJT NPN BC548 with Self base biasing operates as a Single stage CE amplifier circuit
- Two stage RC Coupled CE amplifiers using NPN Transistor BC548 with Self base biasing
- Separate Modules of Single Stage and Two stage CE Amplifier
- First stage Output RC Coupled to the second stage Input
- Silicon NPN BJTs of TO-92 package on board
- Wide Bandwidth AF Amplifier
- Resistive Collector Load for each stage
- Input and Output Coupling Capacitors
- Facility to study each stage separately
- In-Built Fixed regulated DC Power Supply
- User friendly Design
- Very Easy for Operation
- Multi color Circuit Diagram is printed on the front panel of the white board
- Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- Facility to connect external Function Generator and Oscilloscope
- Interconnections by 2mm high quality banana sockets and pins
- Maximum Test points to explore all the corners of experiment
- 1 Year Warranty

Technical Specifications

AC Mains Power Supply	: 230V ±10%, 50Hz
DC Power Supply	: IC Regulated Fixed +12V/500mA
Amplifier Type	: Single stage and Two Stage RC Coupled CE Amplifier
Transistor Type and Package	: Bi-Polar Silicon-NPN, TO-92 Package
Transistor Used	: Three BC548
Transistor Configuration	: CE mode
Amplifier Stages	: Single stage and Two Stage
Amplifiers Inter coupling type	: RC Coupled
Biasing Method	: Self Bias
BJT Junction Voltage	: 0.7V
Max. Collector Emitter Voltage	: 12VDC
Emitter Base Voltage V_{BE}	: 5V
Base Resistors	: Two No. for each stage
Emitter Resistors	: One No. with bypass capacitor for each stage
Input Output Coupling Capacitors	: Two No. Electrolytic type

- Collector Load : 10KΩ Fixed Resistive Load for each stage
- Input Signal Type : Sine wave
- Max. Input Frequency Range : 60Hz-500KHz approx.
- Output Frequency Response : 100Hz-20KHz approx.
- Weight : 2.0 kg (approx)
- Dimensions (mm) : L 220 x W 270 x H 110
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50^{0}C, 80% RH

Learning Scope

- **To study the Single Stage CE Amplifier.**
  To Observe & Note the change in O/P w.r.t. change in I/P Frequency. To Plot the frequency response & To Determine Bandwidth of circuit for the different Values of emitter resistor RE.
- **To Study the Two Stage RC Coupled Amplifier using Transistor.**
  To Observe & Note change in O/P of second stage w.r.t. change in I/P Freq. of first stage. To Plot the frequency response & Determine Bandwidth. To Calculate Voltage gain of each stage & Overall Voltage Gain of circuit & to verify AV = AV1 x AV2

Other Instruments Required : Oscilloscope, Function Generator 1MHz.

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change