To Study Load Line of BJT and Biasing with Digital Meters

Model : SC-106DM

SINCOM SC-106DM To Study Load Line of BJT with Digital Meters is a self contained remarkable simply designed trainer for the purpose to study setting up of a BJT DC load line and its effect on signal amplification with and without Emitter Resistor and determine the various operational parameters with a wide range of components bank in a simple experimental way. The Trainer is equipped with on board Digital voltmeter & Digital Ammeter.

Features

- User friendly Design
- One Silicon NPN BJT of TO-92 package on board
- NPN BJT with higher β
- Combinational Resistor Bank at Base
- Resistor Bank at Emitter
- Variable Resistive Collector Load
- In-Built Fixed regulated DC Power Supply
- Easy to select the different biasing resistors
- Facility to change the Operating Point Q
- Facility to study the AF signal amplification and frequency response
- Very Easy for Operation
- Multi color Circuit Diagram is printed on the front panel of the board
- Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- On Board $3^{1/2}$ Digit Digital Voltmeter and Ammeter
- 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
- Biasing Method : Voltage Divider/Self Bias with & without Emitter Feedback
- Transistor Type and Package : BJT-Silicon-NPN, TO-92 Package
- Transistor Used : One SL/CL100
- Transistor β : @170-180
- Transistor Configuration : CE mode
- BJT Junction Voltage : 0.7V
- Max. Collector Emitter Voltage : 12 VDC
- Base Resistor Bank : Four Base Resistors includes Two Fixed and Two Variable
- Fixed Base Resistor Bank : Two Fixed-MFR 15KΩ & 3.9KΩ, ±5%
- Variable Base Resistor Bank : Two Variable 100KΩ Potentiometers
- Collector Resistor : Fixed-MFR 3.3KΩ, ±5%
- Output Load : Variable 10KΩ Resistive Load
- Emitter Resistor Bank : Two- MFR 2.2KΩ and 0Ω, ±5%
- Total Digital Meters : 04 (2 Voltmeter and 2 Ammeter)
- Digital Voltmeters : 0-2V and 0-20V (Two Nos.)
- Digital Ammeter : 0-2mA and 0-20mA (Two Nos.)
- 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 Determine the various currents & voltages I_B,I_C,V_B,V_C,V_{CE},V_E and Stability factor.
- To Plot DC load line & observe change w.r.t. change in Base resistor & Emitter feedback resistor bank.
- To study the effect on AF Output for the applied AF input by the change of load line.

Other Instruments Required : Oscilloscope, Function Generator.

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change