JFET and MOSFET Biasing Methods

Model : SC-109

SINCOM SC-109 JFET and MOSFET Biasing Trainer is a remarkable **All-In-One** simply designed trainer for the purpose to study N-Channel JFET Gate Bias, Self Bias, Voltage Divider Bias, Source Bias & N-Channel Enhancement type MOSFET Voltage Divider Bias, Drain to Gate (Feedback) biasing methods and determine the various operational parameters with a wide range of components bank in a simple experimental way.

Features

- User friendly Design
- Separate Modules of JFET and MOSFET Gate Bias circuits
- All-In-One JFET and MOSFET gate bias modules
- Easy selection of Various biasing methods
- JFET TO-72 Low Power and MOSFET TO-220 Metal Transistor packages
- Combinational Resistor Bank at Gate
- Resistor Bank at Drain
- Resistor Bank at Source
- In-Built Dual Fixed regulated DC Power Supply
- Easy to select the different biasing resistors
- Facility to plot DC Load Line
- Very Easy for Operation
- Multi color Circuit Diagram is screen printed on the front of the white color acrylic board
- Enclosed in an attractive, light weight, High Quality, Poly Coated Australian Pine Wooden cabinet
- Facility to connect external Digital/Analog Voltmeter and Ammeter or Digital Meters
- 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 Dual Fixed ±12V/500mA
- Biasing Method : JFET-Gate Bias, Self Bias, Voltage Divider Bias & Source Bias
  MOSFET- Drain to Gate (Feedback) Bias, Voltage Divider Bias
- **For JFET Biasing**
  - Transistor Types and Package : JFET-N Channel,TO-72 Package
  - JFET Used : BFW10
  - Pin Count : 4 Gate, Drain Source and Substrate
  - Transistor Configuration : CS mode
  - Max. Drain Source Voltage : 12 VDC
  - Combinational Gate Resistor Bank : Six Gate Resistors includes Four Fixed and Two Variable

- Fixed Gate Resistor Bank : Four Fixed-MFR 10KΩ(2 No.) & 100KΩ (2No.), ±5%
- Variable Gate Resistor Bank : Two Variable 100KΩ Potentiometers
- Drain Load Resistor Bank : One Fixed-MFR 1KΩ, ±5% & Variable 100KΩ Potentiometer
- Source Resistor Bank : Fixed-MFR 100Ω, 1KΩ and 0Ω, ±5%. Variable 100KΩ Potentiometers

- **For MOSFET Biasing**
  - Transistor Type and Package : MOSFET, N-Channel Enhancement, TO-220 Package
  - MOSFET Used : IRF840/540
  - Pin Count : 3 Gate, Drain and Source
  - Transistor Configuration : CS mode
  - Max. Drain Source Voltage : 12 VDC
  - Combinational Gate Resistor Bank : Six Gate Resistors includes Four Fixed and Two Variable
  - Fixed Gate Resistor Bank : Four Fixed-MFR 10KΩ (2No) & 100KΩ (2No), ±5%
  - Variable Gate Resistor Bank : Two Variable 100KΩ Potentiometers
  - Drain Load Resistor Bank : One Fixed-MFR 1KΩ, ±5% & Variable 100KΩ Potentiometer
  - Source Resistor Bank : Fixed-MFR 100Ω, 1KΩ and 0Ω, ±5%. Variable 100KΩ Potentiometers
- Weight : 3.0 kg (approx)
- Dimensions (mm) : L 270 x W 390 x H 130
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50^{0}C, 80% RH

Learning Scope

- To study the need of Biasing circuits.
- To study the JFET Gate Bias, Self Bias, Voltage Divider Bias and Source Bias circuits.
- To study the MOSFET Gate Bias, Voltage Divider Bias and Drain to Gate (Feedback)Bias circuits.
- To Observe & Note the change in Drain Current w.r.t. change in Biasing Resistors.

Other Instruments Required

SINCOM Digital Multi VI meter (DMVI) : Model DMVI-03 Range V_1-20V, I_1-20mA,V_2-20V,I_2-200mA DC

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change