

Current Shunt Negative Feedback Amplifier using BJT

Model : SD-131



SINCOM SD-131 Current Shunt Negative Feedback Amplifier using BJT is a simply designed trainer for the purpose to study the concept, operation, Frequency response and determine the Bandwidth, Voltage gain and other parameters of a Current Shunt negative feedback Amplifier in a simple experimental way.

Features

- ❖ Two stage RC Coupled CE Amplifier using NPN Transistor BC548 in voltage divider bias mode, with the feedback from the second stage emitter to the first stage base input through RC network operates as a Current Shunt negative feedback circuit
- ❖ Output with and without Feedback
- ❖ Switch to select/deselect the RC feedback elements in the circuit
- ❖ Silicon NPN BJT of TO-92 package on board
- ❖ Resistive Collector Load
- ❖ Input and Output Coupling Capacitors
- ❖ 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



An ISO 9001:2015 Co.

Technical Specifications

▪ AC Mains Power Supply	: 230V \pm 10%, 50Hz
▪ DC Power Supply	: IC Regulated Fixed +12V/500mA
▪ Amplifier Type	: Current Shunt Negative Feedback CE Amplifier
▪ Transistor Type and Package	: Bi-Polar Silicon-NPN, TO-92 Package
▪ Transistor Used	: Two BC548
▪ Transistor Configuration	: Two stage RC Coupled CE mode
▪ Biasing Method	: Voltage Divider Bias
▪ BJT Junction Voltage	: 0.7V
▪ Max. Collector Emitter Voltage	: 12 VDC
▪ Emitter Base Voltage V_{BE}	: 5V
▪ Base Resistors	: Two No. for each stage
▪ Emitter Resistors	: One No. for each stage
▪ Input Output Coupling Capacitors	: Two No. Electrolytic type
▪ Collector Load	: 10K Ω Fixed Resistive Load for each stage
▪ Feedback Elements	: One RC series Network with a Feedback select Switch
▪ Input Signal Type	: Sine wave
▪ Max. Input Frequency Range	: 60Hz-500KHz approx.
▪ Output Frequency Response	: 60Hz-100KHz approx.
▪ Weight	: 2.0 kg (approx)
▪ Dimensions (mm)	: L 220 x W 270 x H 110
▪ Interconnections	: 2mm Banana sockets
▪ Operating Temperature	: 0-50 $^{\circ}$ C, 80% RH

Learning Scope

- To study Current Shunt Negative Feedback Amplifier.
- To observe and Note the change in Output voltage w.r.t. change in Input frequency.
- To Plot the Frequency response curve and to Determine Voltage Gain and Bandwidth.

Other Instruments Required : Oscilloscope, Function Generator 1MHz.

Accessories Included : Set of Patch Cord and Details Instruction Manual