



An ISO 9001:2015 Co.

Current Series Negative Feedback Amplifier using BJT

Model : SD-130

SINCOM SD-130 Current Series 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 Series negative feedback Amplifier in a simple experimental way.

Features

- ❖ BJT NPN BC548 in CE mode with voltage divider base bias and emitter resistor capacitor feedback elements operates as a Current Series Negative feedback amplifier circuit
- ❖ Silicon NPN BJT of TO-92 package on board
- ❖ Resistive Collector and Output Load
- ❖ Switch to select feedback capacitor C_E in the circuit
- ❖ 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

Technical Specifications

▪ AC Mains Power Supply	: 230V $\pm 10\%$, 50Hz
▪ DC Power Supply	: IC Regulated Fixed +12V/500mA
▪ Amplifier Type	: Current Series Negative Feedback CE Amplifier
▪ Transistor Type and Package	: Bi-Polar Silicon-NPN, TO-92 Package
▪ Transistor Used	: BC548
▪ Transistor Configuration	: 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.
▪ Emitter Feedback Resistors R_E	: One No.
▪ Emitter Feedback Capacitor C_E	: One No. with Switch select to R_E
▪ Input Output Coupling Capacitors	: Two No. Electrolytic type
▪ Collector Load	: 10K Ω Fixed Resistive Load
▪ Output Load	: 10K Ω Fixed Resistive Load
▪ Input Signal Type	: Sine wave



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▪ 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°C, 80% RH

Learning Scope

- To study Current series Negative Feedback Amplifier.
- To observe and Note the change in O/P voltage w.r.t. change in I/P 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