RF Single and Double Tuned Amplifier

Model : SD-139

SINCOM SD-139 RF Single and Double Tuned Amplifier is simply designed trainer for the purpose to study the concept, operation, Frequency response, and determine the resonance frequency, Bandwidth, Voltage gain and other parameters of a Radio Frequency (RF) Single and Double tuned Amplifier in a simple experimental way.

Features

- Single Stage CE Class-C Amplifier using NPN Transistor BC548 in Self base mode with collector double LC tuned circuit and emitter RC feedback elements operates as a RF Single & Double Tuned amplifier.
- Silicon NPN BJT of TO-92 package on board
- Single and Double tuned Outputs
- Narrow Bandwidth AF Amplifier
- Output Coupling Transformer
- Resistive Output 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

Technical Specifications

- AC Mains Power Supply : 230V ±10%, 50Hz
- DC Power Supply : IC Regulated Fixed +12V/500mA
- Amplifier Type : Class-C Tuned Amplifier
- Transistor Type and Package : Bi-Polar Silicon-NPN, TO-92 Package
- Transistor Used : BC548
- Transistor Configuration : CE mode
- Biasing Method : Self Bias
- BJT Junction Voltage : 0.7V
- Max. Collector Emitter Voltage : 12 VDC
- Emitter Base Voltage V_{BE} : 5V
- Base Resistors : Two No.
- Input Output Coupling Capacitors : Two No. Electrolytic type
- Output Coupling Transformer : 6V RF Driver Transformer
- Output Load : 10KΩ Fixed Resistive Load

- Tuned Circuit : Two LC tuned circuit at collector
- Tuned Output : RF Single and Double tuned
- Input Signal Type : Sine wave
- Max. Input Frequency Range : 1KHz-500KHz approx.
- Resonant/Tuning frequency : RF Single & Double between 30KHz-200KHz 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 Frequency Response of RF Single Tuned Amplifier.
- To Study Frequency Response of RF Double Tuned Amplifier.
- To Observe & Note change in Output w.r.t. change in Input Frequency.
- To Plot frequency response & To Determine Resonance frequency, 3-dB Bandwidth and effective Q of the circuit.

Other Instruments Required : Digital Multimeter, Oscilloscope, Function Generator 1MHz.

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change