

## RF Double Tuned Amplifier

### Model : SD-138

**SINCOM SD-138 RF 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) 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 Double Tuned amplifier circuit
- ❖ Silicon NPN BJT of TO-92 package on board
- ❖ 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 $\pm$ 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	: 10K $\Omega$ Fixed Resistive Load
▪ Tuned Circuit	: Two LC tuned circuit at collector
▪ Input Signal Type	: Sine wave



An ISO 9001:2015 Co.

▪ Max. Input Frequency Range	: 1KHz-500KHz approx.
▪ Resonant/Tuning frequency	: Two tuned frequency 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 <sup>0</sup> C, 80% RH

### Learning Scope

- To Study Frequency Response of RF Double Tuned Amplifier.
- To Observe & Note change in O/P w.r.t. change in I/P 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