



An ISO 9001:2015 Co.

BJT (Transistorized) Shunt Voltage Regulator

Model : SB-109

SINCOM SB-109 BJT (Transistorized) Shunt Voltage Regulator is very useful simply designed trainer to study the operation, line and load regulation characteristics of BJT Shunt Voltage Regulator with variable load in a simple experimental way. The Trainer is without meters and has the facility to connect the external analog or digital Voltmeter and Ammeter in the circuit.

Features

- ❖ User friendly Design
- ❖ Silicon NPN Transistorized circuit with two Zener Diode as controlling element
- ❖ Facility to vary wide range of applied DC Input voltage
- ❖ Variable Resistive Load
- ❖ Facility to vary regulated Output DC Voltage
- ❖ In-Built Variable regulated DC Power Supply
- ❖ Very Easy for Operation
- ❖ Multi color Circuit Diagram 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 Digital/Analog Voltmeter and Ammeter
- ❖ 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 Variable 0V to +12V/500mA
▪ Unregulated DC Input Vin	: 0 to 12V DC Input
▪ Regulated DC Output Vo	: Two DC Outputs of 6.2V and 6.8V, \pm 10%
▪ Output Voltage Control	: By Two Zener Diodes at sampling network
▪ Transistors Used	: One N-BJT NPN Silicon-BC548
▪ Zener Diodes Used	: Two Zener diodes of 5.6V and 6.2V
▪ Forward Voltage Drop	: 1.2V at $T_A = 25^{\circ}\text{C}$
▪ Load Resistor	: 10K Ω Variable Resistive Load
▪ Regulation type	: Line and Load Regulation
▪ Weight	: 2.0 kg (approx)
▪ Dimensions (mm)	: L 220 x W 270 x H 110
▪ Interconnections	: 2mm Banana sockets
▪ Operating Temperature	: 0-50 $^{\circ}\text{C}$, 80% RH

Learning Scope

- To Study operation of Shunt Voltage Regulator using Transistor.
- To Study Change in O/P Voltage w.r.t. change in I/P Voltage with Load RL constant (Line Regulation)
- To Study Change in O/P Voltage w.r.t change in Load RL with I/P voltage constant (Load Regulation)

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.