

Semiconductor (PN Junction) Diode Characteristics

Model : SA-101



SINCOM SA-101 Semiconductor (PN Junction) Diode Characteristics is very useful to study the V-I characteristics of Silicon and Germanium type of semiconductor diode in forward and reverse bias mode. The semiconductor diodes are a basic building of every semiconductor device. Hence it is necessary to study and determine the various parameters of the diode. The trainer is simply designed to study the various aspects of semiconductor diode 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 :

- ❖ DO-41 Silicon and Germanium Diodes package
- ❖ Silicon and Germanium PN Junction semiconductor diodes are provided
- ❖ Higher Average forward current and Non-repetitive Peak forward surge current
- ❖ Higher Peak repetitive Reverse voltage and Power dissipation
- ❖ In-Built Variable regulated DC Power Supply
- ❖ Multi color Circuit Diagram is screen printed on the front of the white color acrylic board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Australian Pine Wooden cabinet
- ❖ Facility to connect the external Digital/ Analog Voltmeter and Ammeter
- ❖ Facility to select the Forward and Reverse mode of Diodes
- ❖ User friendly Designed
- ❖ Very Easy for Operation
- ❖ 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	: 230 ±10%, 50Hz
▪ DC Power Supply	: IC Regulated variable 0V to +12V / 500mA
▪ Diodes Used	: Silicon and Germanium PN Junction
▪ Diode Package	: DO-41 Tape and Reel type
▪ Peak forward surge current	: 30A
▪ Reverse current	: 5µA at $T_A = 25^0\text{C}$, 50µA at $T_A = 100^0\text{C}$
▪ Peak repetitive Reverse voltage	: 1000V
▪ Power dissipation	: 3W maximum.
▪ Operating Junction Temperature	: -55 to $+175^0\text{C}$
▪ Total Capacitance	: 15 PF at $V_R=4.0\text{ V}$ and $F=1.0\text{ MHZ}$
▪ Weight	: 2.0 kg (approx)
▪ Dimensions (mm)	: L 220 x W 270 x H 110
▪ Interconnections	: 2mm Banana sockets
▪ Operating Temperature	: 0-50 ^0C , 80% RH

Learning Scope

- To Plot the Forward characteristics of Silicon and Germanium type Semiconductor Diodes.
- To Determine Forward static & dynamic resistance of diode at a given operating point.
- To Plot the Reverse characteristics of Silicon and Germanium type Semiconductor types.

Other Instruments Required

SINCOM Digital Multi VI meter (DMVI) : Model DMVI-01 Range $V_1=2\text{V}$, $I_1=2\text{mA}$, $V_2=20\text{V}$, $I_2=20\text{mA}$ DC

Accessories Included

Set of Patch Cord and Details Instruction Manual