



An ISO 9001:2015 Co.

IGBT Characteristics

Model : SA-119/SA-406

SINCOM SA-119/SA-406 IGBT Characteristics is useful to study V-I characteristics of N-Channel IGBT. The IGBT is a power switching transistor which combines the advantages of MOSFETs and BJTs. The IGBTs are mainly used in power electronics applications such as inverters, converters and power supplies. The trainer is simply designed to plot its characteristics and determine the various operational parameters 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

- ❖ N-Channel IGBT of TO-220AB Transistor package is provided
- ❖ IGBT used is having Low forward voltage drop, High switching speed, Low tail current, Latch-up free, Avalanche rated.
- ❖ Individual control of Gate and Collector Input DC voltages
- ❖ Current controlling resistors in Gate and Collector
- ❖ In-Built Variable regulated DC Power Supply
- ❖ Multi color Circuit Diagram printed on the front of the white board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ Facility to connect the external Digital/ Analog Voltmeter and Ammeter
- ❖ 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

Technical Specifications

▪ AC Mains Power Supply	: 230V \pm 10%, 50Hz
▪ DC Power Supply	: Two Nos. Variable +12V/500mA
▪ Gate-Emitter Voltage V_{GE}	: IC Regulated variable 0V to +12V/500mA
▪ Collector-Emitter Voltage V_C	: IC Regulated variable 0V to +12V/500mA
▪ Transistor Package	: TO-220AB
▪ IGBT Type	: N Channel IGBT
▪ IGBT Used	: BUP Series
▪ Pin Count	: 3 Gate, Collector and Emitter
▪ Gate Current Controlling Resistor	: MFR 10K Ω , \pm 5%
▪ Collector Current Controlling Resistor	: MFR 10K Ω , \pm 5%
▪ Max. Collector-Emitter Voltage V_{CE}	: 600V DC
▪ Max. Collector Current I_C	: 36A
▪ Operating Junction Temperature	: -55 $^{\circ}$ to +150 $^{\circ}$ C
▪ Weight	: 2.0 kg (approx)
▪ Dimensions (mm)	: L 220 x W 270 x H 110
▪ Interconnections	: 2mm Banana sockets



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- Operating Temperature : 0-50°C, 80% RH

Learning Scope

- To Study the V-I characteristics of N-channel IGBT.
- To Study the Transfer characteristics of N-channel IGBT.

Other Instruments Required

SINCOM Digital Multi VI meter (DMVI) : Model DMVI-06 Range V₁-20V, I₁-20mA, V₂-20V, I₂-20mA DC

Accessories Included

Set of Patch Cord and Details Instruction Manual