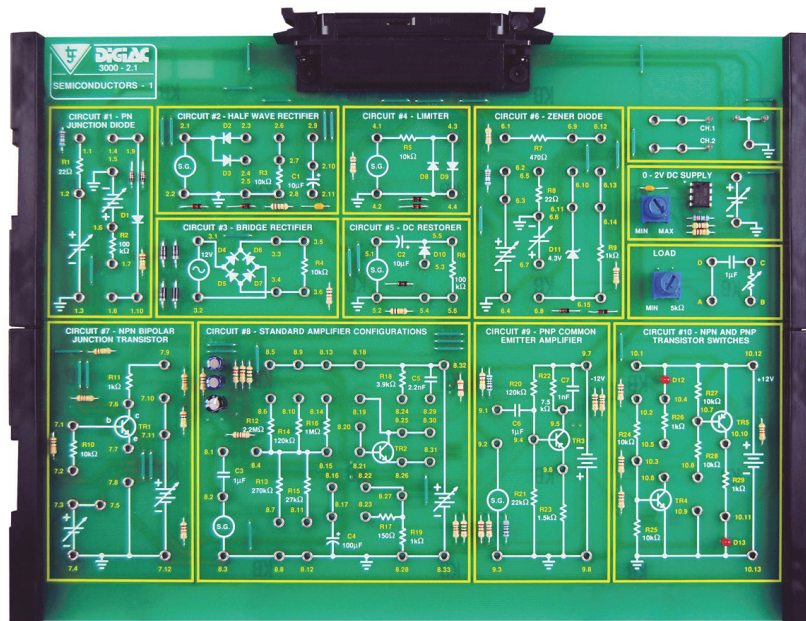


Product Information Sheet

Semiconductors 1 Study Module



LJ CREATE™
Learning for life



This electronics study module is designed to connect to the 300-01 or 300-02 Advanced Electronics Experiment Platforms as part of a modular electronics programme.

The study module is designed to introduce students to semiconductors and their applications in electronic circuits.

Using either of the Experiment Platforms, users can select from a range of faults to be inserted into the study module circuits to develop electronic diagnostic and faultfinding techniques.

The study module is supplied with PDF manuals that provide theory materials, practical tasks, faultfinding activities, and technical information.

Topics Include the Following:

- P-N Junction Diode Ohm's Law
- Half Wave Rectifier
- Bridge (Full Wave) Rectifier
- Zener Diode
- Transistor Characteristics
- Transistor Amplifier
- Bias Stabilization
- Other Amplifiers
- Two Stage Amplifier
- The Transistor as a Switch

Typical Activities Include:

- Measure the DC parameters of a PN junction diode
- Measure V_p and V_{av} for a half wave rectifier output
- Measure reservoir capacitor voltages for a half wave rectifier output
- Identify the characteristics of a full wave rectifier circuit
- Diagnose a fault in a zener stabilizer circuit
- Make current gain measurements on a bipolar junction transistor (BJT) to calculate the forward current gain
 - Measure collector current for a bipolar junction transistor
- Determine by measurement and calculation the input resistance of a bipolar junction transistor

- Identify the meaning and purpose of feedback in a bipolar junction transistor amplifier
- Measure quiescent and dynamic voltages for an emitter follower (CC) amp to determine the gain
- Measure the bandwidth of a two-stage cascaded amplifier
- Recognize the states of a bipolar junction transistor switch
- Faultfinding semiconductor circuits

Items Included:

- Circuit Card
- Storage Case
- Curriculum Manuals in PDF Format

Other Items Required:

- 300-01 Advanced Electronics Experiment Platform
 - Digital Multimeter
 - Dual Trace Oscilloscope
 - Signal Generator
- or**
- 300-02 Advanced Electronics Experiment Platform with Virtual Instrumentation

General Information:

Dimensions: 81 x 323 x 256 mm (W, H, D)
Shipping Volume: Approx 0.008 m³
Shipping Weight: Approx 2 kg

Order Code: 302-21

P8521-B

For more information visit www.ljcreate.com