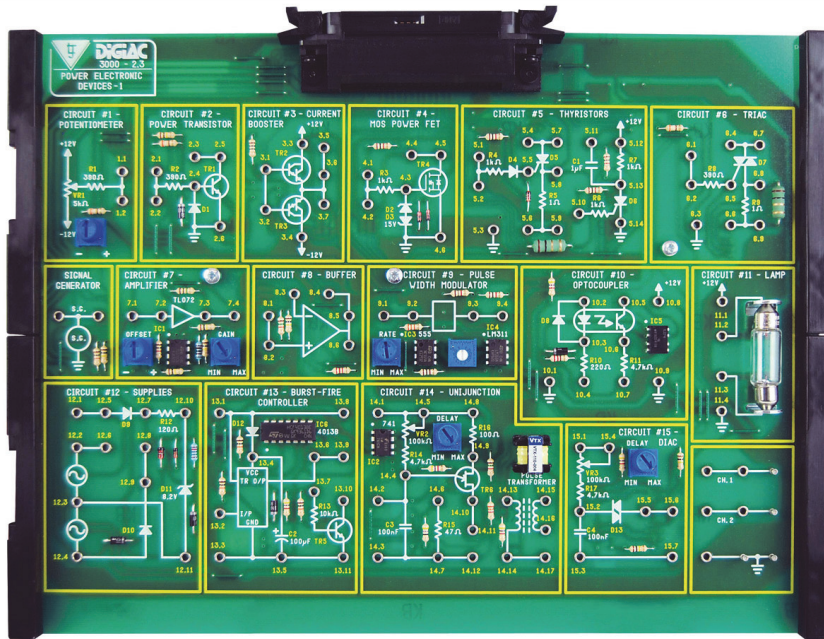


Product Information Sheet

Power Electronics 1 Study Module



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 semiconductor devices used in power applications through a wide range of practical activities.

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:

- Power Transistor
- Duty Cycle Controller
- Current Booster
- Audio Power Amplifier
- MOS Power FET
- Silicon Controlled Rectifier
- Unijunction Transistor
- Trigger Isolation
- Triac

Typical Activities Include:

- Determine by calculation or measurement the base-emitter voltage and current gain of a power transistor
- Determine the duty cycle and frequency of a PWM waveform
- Plot the transfer characteristic and deduces the base-emitter turn-on voltage for a Complementary Darlington Pair Emitter Follower
- Obtain and recognizes the waveform for maximum undistorted output voltage of a voltage amplifier
- Identify waveforms in an audio power amplifier
- Identify the threshold voltage from a FET transfer characteristic graph
- Measure the gate firing voltage and anode-to-cathode 'on' voltage of a thyristor

- Identify triggering angle and conduction angle in a controlled angle firing thyristor circuit
- Measure the load current of a pulse transformer type thyristor trigger isolation circuit
- Measure the gate current of a Triac
- Faultfinding power electronics circuits

Items Included:

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

Other Items Required:

- 300-01 Advanced Electronics Experiment Platform
 - 2 Digital Multimeters
 - 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: 305-23

P8533-B

For more information visit www.ljcreate.com