



55819 Experimental Set-up has been designed specifically for study of P-N Junction. This is an advanced level experiment to be performed on commercially available diodes viz. germanium or silicon diodes and also on the baseemitter / collector-base junctions of a transistors. The results of the experiments not only give the device characteristics but also provide an insight into the properties of the materials used in fabrication of the junction. The experimental set-up is self contained and require no other apparatus except CRO. Practical experience on this set up carries great educative value for Science and Engineering Students.

OBJECT

To study various characteristics of P-N Junction

- 01 Determination of reverse saturation current I_0 and material constant h .
- 02 Determination of Temperature Co-efficient of Junction voltage and Energy band-gap.
- 03 Study of depletion capacitance and its variation with reverse bias

FEATURES

- 01 Study of P.N. Junction consists of :
 - 1.1 3½ digit DPM for current / Temperature measurements.
 - 1.2 3½ digit DPM bias voltage / junction voltage measurement.
 - 1.3 Two fixed frequency oscillators (5KHz & 20KHz) with the same output (200mV p-p)
 - 1.4 Two parts to connect the diode – one for experiment 1 & 2 and other for experiment-3.
- 02 Fast temperature controlled oven with sensor
- 03 Set of samples :
 - 3.1 Transistor BC-109 (Base-Emitter) - Si
 - 3.2 Transistor AC-126 (Base-Emitter) - Ge
 - 3.3 Diode IN-5408 - Si
- 04 Dimension : W 425 x H 190 x D 290
- 05 Mains ON/OFF switch & fuse.
- 06 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms.
- 07 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.

OTHER APPARATUS REQUIRED:

- 01 Dual trace CRO

Note: Specifications are subject to change.

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