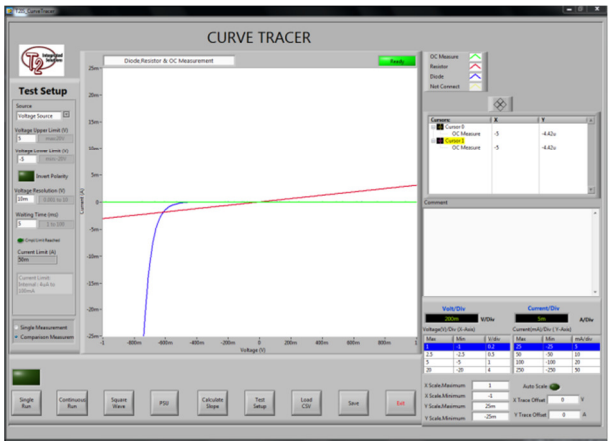
Digitizing Curve Tracer System



Key Features

- *Store and recall setups*
- *Export of measurement data to Microsoft Excel*
- *Curve can be saved in JPEG or BMP formats*
- *Curve can be offset vertically upwards or downwards*
- *Precise control over maximum current, voltage or power*
- *Single or continuous sweeps*
- *In-situ comparison of two or multiple curves to assess differences*
- *Leakage test with power-up conditions*

The Digitizing Curve Tracer System is a software-based Curve Tracer on the National Instruments' PXI platform that brings flexibility into Curve Tracing for failure analysis in the semiconductor industry.

This system differs from the conventional box curve tracer in that this is a software-defined solution using open-architecture environment. The custom-based applications fit into user-defined requirements provide the ease of usage and become a cost effective system for the user.

Applications

The Digitizing Curve Tracer System is perfect for failure analysts who are looking for a replacement system to the conventional box instrument at a fraction of costs and with an expansion of capabilities.

With this system, curve traces, continuity or leakage current measurements, can be done as an initial electrical bench measurement during the course of failure analysis. This non-destructive electrical test method provides DC characteristics of I/O pins of semiconductor devices. Curve tracing comparison with golden devices can also be used for quick defect identification. Continual mode tracing can be used for to access electrical characteristics stability over incremental temperature or time domain plot.

The Digitizing Curve Tracer System also provides a more precise control over the maximum current, voltage, or power to ensure that the failure mechanism is not altered and that the component is not damaged. Moreover, the ability to provide zoom-in into the range and steps allows useful information about the stability and nature of the failure mechanism to be collected.

The multi-cursor function provides point information of the curve/s.

External mechanical switch boxes can be integrated into the system for multi-pins curve trace or for trace comparison purposes.

Advantages

The Digitizing Curve Tracer System is a modular, open-architecture system. Basic system configuration provides up to ±20V with five (5) current ranges (200 µA to 2 A). Should customization be required, this system is not hardware limited. The system can be integrated with high power SMU (Source Measurement Unit) with up to ±100V, DC regulators, signal generators, etc.

Software customization allows users to define how the system is used for curve tracing and the user interface for specific applications.

Features

- Store and recall setups.
- Export of measurement data to Microsoft Excel.
- Curve can be saved in JPEG or BMP formats.
- Curve offset function has the ability to offset a curve vertically upwards or downwards in the plot.
- Precise control over the maximum current, voltage, or power to ensure that the failure mechanism is not altered and that the component is not damaged.
- Sweep measurement mode with single sweep and continuous sweeps.
- In-situ comparison of two or multiple curves to assess differences.
- Identification of curves with up to 25 characters of text as labels.
- Automated cursor capability to provide direct screen readout of voltage and current.
- Both linear and logarithmic displays.
- Curve tracing stability over time and temperature.
- Leakage test with power-up conditions.
- Can be expanded to multiple number of traces.