Barth Model 4003 TLP+ ™

Pulse Curve Tracer

The Barth Model 4003 TLP+ ™

Pulse Curve Tracer precisely characterizes the ESD robustness of silicon chip protection circuitry.

Programmed rectangular pulses are applied to the device under test, resulting in a computerized plot of current vs voltage.

A leakage measurement can be made after each pulse to obtain the leakage evolution current versus pulse voltage.

Set up for packaged device testing; an optional dual wafer probe (Model 45003WP), permits wafer level testing. Other options and accessories are also available.

System Components

- Tektronix 1 GHz, 2 channel, digitizing oscilloscope
- High reliability Barth Electronics control box/pulse generator
- Keithley Picoammeter/voltage source
- Dell Precision Workstation - Test control computer
- LabView® runtime control and analysis software
- One year warranty on the entire system
- One year BSSP Barth Software Subscription Program

Accuracy

Special Barth wide bandwidth pulse current and voltage sensors provide a high standard of measurement capability for ESD test equipment.

The complete system has been built with special attention paid to minimizing losses in the test circuitry and the coaxial cable connections. This results in low internal resistance at the device under test (DUT), for high accuracy measurements.

Barth's software allows users to make manual leakage delay adjustments, and allow for leakage test voltages up to 500V.

The software includes voltage & current waveform capture, automatic calibration / compensation, automatic data save, save / recall operator set-ups, auto or manual axis scaling, single or multi-point leakage testing (configurable), adjustable measurement window, dynamic resistance calculator, recall data function for compare & analyze of multiple tests, 2 channel scope (4 channel optional), save / recall pulsing "profiles", scope auto-SPC (signal path compensation), and numerous other features.

The BSSP (Barth Software Subscription Program) provides periodic software updates and improvements. This assures your system is in peak operating condition. Test speed increases and efficiency improves. Improve system capability with regard to calibration, reporting, and system diagnostics; all available with BSSP.

How It Works

To use the Pulse Curve Tracer, the operator enters the desired test parameters via keyboard, such as starting voltage, current and voltage limits, voltage step increments, pulse risetime, leakage test voltage, and pulse width. The test then proceeds automatically, controlled by Barth software developed with National Instruments Labview©. The operator can halt and resume the testing and can view the plotted test data points as the test proceeds. The operator can also view (during testing or afterward), voltage & current waveforms, single point or multi-point leakage evolution, test set-up parameters, or numerical data information. The active test and several previous tests' data points may be viewed simultaneously on the I/V plot.

Hardcopy printouts listing data point values and showing plotted results using operator selected scaling are immediately available in a presentation ready format at the end of a test.

Barth Electronics, Inc.