Thermo Scientific Pegasus 2pin ESD Test System

The Thermo Scientific Pegasus 2pin ESD Test System is a low parasitic tester platform used in the evaluation of advanced IC devices at both wafer and package levels. Determination of ESD failure thresholds is made easy using one of the available ESD waveforms and built-in curve tracing capabilities.

- Fully complaint, Human Body Model (HBM) and Machine Model (MM) testing per the latest industry standards.
- Additionally, a *true* system level ESD 150pF/330Ω network (not a 50 Ω emulator) is also available to meet the proposed Human Metal Model (HMM) (IEC 610004-2 like) requirements
- 2pin connection via wafer probes, to any device in a package, die, or on wafer
- Pre and post curve trace measurements for comparative failure analysis.
- Oscilloscope interface (GPIB, USB or TCP/IP) with automatic internal attenuation
- Stores all ZAP waveforms and Automatic analysis them against the latest industry standards
- Automatic Voltage waveform capture
- Pods (ESD waveform generators) can easily be installed on a prober station
- Easily fits on a bench top, or the Main Controller can be installed in a 19" test rack
- Wafer prober interface
- Bias supply controls for pre and post Idd measurements (future)

Low Parastic ESD testing for characterization of ESD protection structures

The Thermo Scientific™ Pegasus ESD Test System is a low parasitic 2pin tester which can be used to characterize protection structures at wafer, die or even package level. It can also be used as part of your device qualification routine, providing supplemental data to the results gathered when using an automated high pin count ESD test system.

Testing to the latest industry standards for Human Body Model (HBM) and Machine Model (MM) waveforms, while also offering a *true* System Level (150pF/330Ω) IEC like waveform based on the EOS/ESD Association's Human Metal Model (HMM).

Consistent, Precise ESD Waveforms

The system's pulse source design and pulse source delivery method ensures waveform performance directly at the device under test, not at the generator output. Current waveforms can be automatically captured and analyzed for each ESD event.

In addition, Voltage waveforms can be captured and used to determine the turn-on level of protection structures. They can also be used as a means of failure determination, as the voltage waveforms show changes after ESD events.

Easy-to-Use Testing Operations

The Pegasus Scimitar Windows®-based software is both intuitive and comprehensive. Tests are set-up quickly, and user training requirements are minimal. Curve traces and waveform captures are automatically stored in an XML data base and can be compiled for reporting or exported for off-line manipulation.

System Integration

The Pegasus design, allows the system to be integrated with Thermo Scientifics' Celestron TLP system, providing TLP and ESD results from one combined platform.

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Define, Achieve and Sustain Your Test Objectives

The Pegasus's flexible, modular design and options enable you to upgrade on-site when corporate or industry standards change. Options include adding additional ESD waveform Pods and control of different oscilloscopes for waveform capture.

Reach the Next Level of Success

Experience the many benefits of working with recognized experts in the field of component reliability ESD and Latch-Up testing. Our goal is to support you with lifelong service — from applications support, calibration services, service contracts, and field service scheduling to full technical field support. We can help you reach that next level of success.

General Specifications

Waveforms	Human Metal Model (HMM), Human Body Model (HBM) or Machine Model (MM)
ZAP Voltage	+/- 15 V to 12 kV for HMM and HBM and +/- 50 V to 2 kV for MM
ZAP Voltage Resolution	1 V
ZAP Voltage Accuracy	1% of set point +/-5 V source performance ZAP
ZAP count / interval range	1 to 9999 count / 0.3 to 10 second intervals
Curve Tracing Voltage	0 to 200 V (consult factory for higher voltages)
Curve Tracing Resolution	10 mV
Voltage Ranges	200 mV, 2 V, 20 V, 200 V
Curve Tracing Current	0 to 1 A
Curve Tracing Resolution	100 nA
Current Ranges	1 µA, 10 µA, 100 µA, 1 mA, 10 mA, 100 mA, 1 A
Curve Tracing Accuracy	0.5% of range
Curve Tracing Output	22 W: 21 V @ 1 A to 210 V @ 0.1 A
Resistance Detection	1 ohm to 200 M ohm
Measurement Points	10 to 250
Pass/Fail Criteria	Relative and Absolute Values
Main Controller Dimension	17" (W) x 17" (D) x 5.2" (H) 432mm x 432mm x 132mm 18.5 lbs
Pod Dimension	6" (W) x 5" (D) x 3" (H) 152mm x 127mm x 76mm 3.0 lbs
Main Controller Power	88 to 264 VAC, 1 Amp, 50/60 Hz

Scimitar Software Features
Summary Panel with easy navigation for test plan setup
Control of external oscilloscopes through the use of Scimitar's user programmable Plug-in capabilities
Flexible parametric tests that are defined and placed at an arbitrary position within the executable test plan.
Comprehensive results viewer that provides:
• ESD data viewing capabilities
• Curves viewer with zooming capabilities and the ability to add user comments
• Data filtering on the following criteria – failed results, final stress levels
• A complete set or subset of results using user defined parameters
• Sorting in ascending or descending order by various column criteria
Tree-like logical view of the tests and test plans
Flexible data storage that provides the ability for the end-user to query the data
Off-line curve analyzing, including third-party generated waveforms
Pause/Resume test capabilities
Intermediate results viewing
Automated waveform capture capability and analysis using the embedded EvaluWave software feature
Cross tester platform architecture - Scimitar's design allows the software to be used across a number of Thermo Scientifics' tester platforms, which means testplans can be used on multiple systems, no need to recreate tests!! Regardless of which tester platform a testplan was executed, results can be viewed on any system or even off-line for data manipulation.

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