PurePulse “All Waveform” ESD System

ONE system that provides ALL 2-pin ESD tests for packaged parts, bare die, and wafer level devices

Expandable to provide comprehensive ESD testing for Compliance to ESD Standards and Engineering Evaluation of design issues and new technologies

PurePulse Modularity

The growing family of PurePulse waveform generators now includes:

- Human Body Model
- Transmission Line Pulse
- Very Fast Transmission Line Pulse
- Ultra Fast Transmission Line Pulse
- Human Metal Model
- Machine Model

GTS Maestro software provides fully integrated control of the PurePulse device test platform, oscilloscope and source measurement unit (SMU), and optional probe station via a single, intuitive user interface.

Each PurePulse configuration comes with a multi-module signal routing subsystem. The PurePulse Smart Router routes the pulse generators to device test setups, including test fixture boards and probe needles, thus removing the need to change cabling when changing pulse type.

The Smart Router also provides and automates sensing connections of oscilloscope, DC and AC parametric test equipment for data collection.

PurePulse Advantages

Modular for easy expansion and customization

- Build the system you need today — customized to your own requirements
- Add pulse generators, automation, and/or new probing options to meet future needs

Consistent software interface

- GTS’s Maestro software provides control of all GTS pulse generators and equipment from other manufacturers

Manual and automated testing

- Test fixture boards with sockets for packaged devices
- Manual wafer probing
- Flying probes with automatic stepping software

DUT response measurement and display

- Verifiable testing: stress waveforms recorded by oscilloscope
- High resolution Source-Meter Measurement to automatically detect failure level
- DC curve tracing

Automatic report generation

- Excel® tables and charts show the test results

GRUND TECHNICAL SOLUTIONS

Superior ESD Testing Solutions

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### TECHNICAL DETAILS

#### PurePulse Controller and standard components

**Controlling Computer**  
“All-In-One” PC with Intel core microprocessor

**High Voltage Supply**  
$\pm 8$ kV with 1 volt resolution

**Smart Router**  
Switches between pulsers and measurement equipment, no changing cables

**DC Measurements**  
Source-Measure Unit standard with 5 digit resolution forcing voltage or current

**Maestro Software**  
Controls pulsers and other equipment, including:
- Probe stations and flying probe systems
- Source-Meters or Parameter Analyzer for DC measurements
- Oscilloscopes for pulse recording and DUT stress measurements

#### PurePulse ESD Modules — Can be used in any combinations

- **PurePulse HBM**  
  Meets current ESDA and JEDEC joint Human Body Model Standard
  - Positive and negative pulse pair in 100 ms
  - No pre-pulse voltage ramp and no leakage current after pulse
  - Qualifies as a “Low Parasitic HBM Tester”

- **PurePulse TLP**  
  - 2 and 10 ns rise times and 100 ns pulse width standard (other widths and rise times optional)
  - 20 A into a short circuit, 1000 V maximum open circuit
  - TDR-Overlapped configuration
  - Options include Kelvin, 100 and 500 $\Omega$ TDRT

- **PurePulse VF-TLP**  
  - VF-TLP features patented Ekho pulse reflection control which eliminates reverse voltage reflections
  - Kelvin or TDR-Separated configuration

- **PurePulse HMM**  
  Meets ANSI/ESDA/ESD SP5.6 Human Metal Model
  - 50 $\Omega$ and 100 $\Omega$ pulse delivery impedances

- **PurePulse MM**  
  Meets ESDA and JEDEC Machine Model Standards
  - 100 to 400 V

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