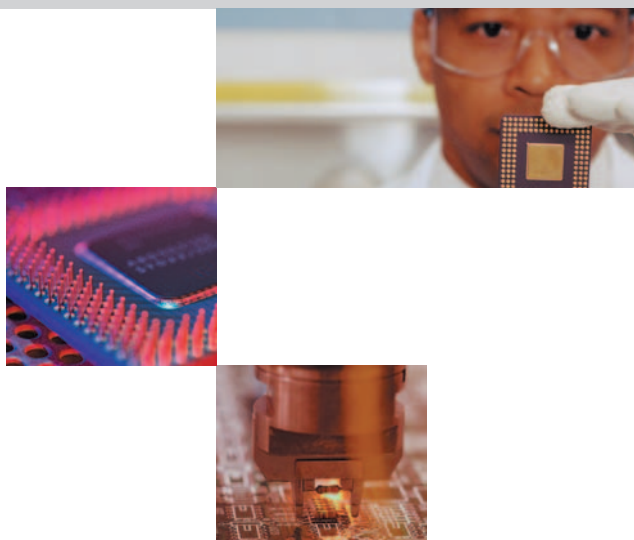


## KeyTek ZapMaster® MK.2 SE ESD & Latch-Up Test System

Relay-based, exceptionally fast test system for the evaluation of advanced IC devices, including new JEDEC/ESDA “trailing pulse” standards – can be configured as 128, 256, 384, or 768 pins

The KeyTek ZapMaster® MK.2 SE (Standards Evolution) enables rapid testing of complex high-pin count IC devices for ESD & Latch-up susceptibility – from design through post-production qualification.

A reliable, highly efficient and cost-effective turnkey system, the KeyTek MK.2 SE fully addresses the newly-identified “trailing pulse” phenomenon, a largely undetectable hazard that occurs after the main HBM test event. Brought on with the scaling of today’s device geometries, trailing pulse may cause non-ESD related failures by exposing the DUT to an electrical overstress.



**Waveform network: 8 site  
HBM pulse source with  
100pF/1500Ω**

**Highly repeatable,  
reproducible test data**

**Enhanced data set features**

**High voltage power supply  
chassis**

**Power supply sequencing**

**Event trigger output**

**Machine Model (MM) and  
Human Body Model (HBM)  
testing to most prevalent  
industry standards**

**Latch-up testing per JEDEC’s  
EIA/JESD 78 Method**

**Preconditioning option  
allows DUT to be vectored  
with complex test and vector  
patterns for excellent control**

**Comprehensive engineering  
vector debug**

**Intuitive set-up and operation**

**Can substantially increase  
throughput & yield**



### Taking legendary performance to the next level

The new KeyTek ZapMaster® MK.2 SE takes the legendary performance, reliability, accuracy and durability of the original KeyTek ZapMaster, and its successor, the KeyTek ZapMaster MK.2, to an enhanced level of functionality required by the scaling of device geometries, and today’s JEDEC and ESDA “trailing pulse” standards. In addition, it offers enhanced data set features, and provides additional flexibility to meet more demanding test needs of integrated system-on-chip designs.

### Rapid, easy-to-use testing operations

Control by Windows®-based software is both intuitive and comprehensive. Tests are set-up quickly, and operator and programmer training requirements are minimal.

A powerful embedded VME controller handles an enormous amount of test

program and result data, and controls the system hardware. This eliminates unnecessary data transfer and increases throughput, a true time-saver when evaluating large devices.

### Consistent, precise ESD waveforms

By locating multiple discharge networks close to the test fixture board itself, unwanted stray inductance and capacitance is kept to a minimum at every pin. This ensures excellent in-test waveform quality, and in turn, highly repeatable and reproducible test data.

### Helps you define, achieve and sustain your test objectives – today and tomorrow

The system’s flexible modular design and options enable you to upgrade on-site when corporate or industry standards change. Options include additional pins, V/I supplies, high speed vectoring capabilities, and test features.

Analyze • Detect • Measure • Control™

**Thermo**  
ELECTRON CORPORATION

## Single Source, Total Component Reliability ESD & Latch-Up Test Solutions

Experience the many benefits of working together with recognized experts in the field of component reliability ESD & Latch-up testing.

Our goal, and that of Thermo's Customer Technical Center, is to support you with lifelong service – from applications support, calibration services and preventative maintenance scheduling to full technical field support.

Thermo Electron Corporation can help you reach the next level of success.

Features	Benefits
<b>Tests devices up to 768 pins; systems available configured as 128, 256, 384, 512 or 768 pins</b>	Additional capability, faster throughput, multi-site enabling
<b>Relay-based operations</b>	Enables test speeds 5 to 10 times faster than robotic-driven testers (test speed dictated by test protocols)
<b>Waveform network: 8 site HBM pulse source with 100pF/1500Ω</b>	Patent Pending design ensures waveform compliance for technology generations to come
<b>MK.2 Performance SE operating software</b>	Advanced software algorithms ensure accurate switching of HV in support of pulse source technology
<b>High voltage power supply chassis</b>	Modular chassis with Patent Pending HV isolation enables excellent pulse source performance
<b>Power supply sequencing</b>	Additional flexibility to meet more demanding test needs of integrated system-on-chip designs
<b>Event trigger output</b>	Manage your setup analysis with customized scope trigger capabilities
<b>Human Body Model (HBM) per ESDA STM5.1, JEDEC EIA/JESD22-A114 MIL-STD 883E, and AEC Q100-002 specs, 50V to 8kV</b>	Test to multiple industry standards in one integrated system; no changing or alignment of pulse sources
<b>Machine Model (MM) per ESDA STM5.2, JEDEC EIA/JESD22-A115, and AEC Q100-003, 50V to 2kV</b>	Integrated pulse sources allow fast multi-site test execution
<b>Latch-up testing per JEDEC EIA/JESD 78 and AEC Q100-004</b>	Includes preconditioning, state read-back and full control of each test pin
<b>Pin drivers for use during Latch-up testing and parametric measurements</b>	Vector input/export capability from standard tester platforms
<b>64k vectors per pin with read-back</b>	Full real-time bandwidth behind each of the matrix pins
<b>Up to 10MHz vector rate programmable from an internal clock</b>	Quickly and accurately set the device into the desired state for testing
<b>Up to six separate V/I supplies</b>	DUT power, curve tracing, and Latch-up stimulus with 4-wire sensing at the DUT board for high accuracy. System design also provides high current capability through the V/I matrix
<b>Multiple self-test diagnostic routines</b>	Ensures system integrity throughout the entire relay matrix, right up to the test socket
<b>Test reports: pre-stress, pre-fail (ESD) and post-fail data, as well as full curve trace and specific data point measurements</b>	Data can be exported for statistical evaluation and presentation
<b>Individual pin parametrics</b>	Allow the user to define V/I levels, compliance ranges, and curve trace parameters for each pin individually
<b>Enhanced data set features</b>	Report all data gathered for off-line reduction and analysis
<b>Comprehensive engineering vector debug</b>	Debug difficult part vectoring setups with flexibility
<b>4 square ft. system footprint</b>	Efficient use of space with convenient user access

Specialists who understand the challenges you face. Innovative ideas. Leading technologies. Breadth of high yield component reliability test equipment. Thermo—your component reliability test solutions partner. Contact us today for details.

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