

Scorpion—Charged Device Model

Scorpion

Robotic CDM Tester for Simulating ESD threats

Scorpion at-a-glance

- Charged Device Model tester available with Legacy CDM Discharge Head and Contact First Technology Discharge Head
- Both Legacy Head and Contact First Head meet JEDEC/ESDA JS-002-2014 and AEC Q100
- All waveforms captured and reviewable in GTS WaveAppraise data analysis software package
- Large uncovered test area
- Device under Test held in place using an internal vacuum pump
- GTS Maestro software — same user interface as GTS Pure Pulse systems

Scorpion Technology

- Flexible testing
 - * high pin densities
 - * pin pitches as small as 0.1 mm
 - * modules up to 125x125 mm
- Easy alignment—adjustable L bracket supplied
- Self-cleaning, low maintenance
- Low N₂ usage
- Accurate mechanical motions with optical feedback



Legacy CDM Discharge Head

The Legacy Discharge Head from GTS is the traditional design approach to CDM device testing.

Dual high resolution cameras are used to align the Device Under Test (DUT). The position X and Y is found with a downward facing camera and Z is found with a camera positioned to look directly at the tip of the pogo pin.

The Scorpion CDM Tester from GTS comes standard with a Legacy Discharge Head.

The Legacy CDM Discharge Head meets the current Joint ESDA/JEDEC standards JS-002 and AEC Q100

Contact First Technology Discharge Head

This patent pending technique of Contact CDM (CCDM) meets the latest CDM standards with higher accuracy for device classification.

The Contact First Discharge Head uses a sliding mechanism to allow the ground plate to be lowered and then touch the correct pin on the Device Under Test (DUT). The Discharge Pogo Pin then lowers and the spark occurs inside the discharge head.

The single high definition camera with joy stick control makes the X-Y alignment fast and *automatic* Z measurement makes setup easy.

Scorpion Charged Device Model

Features and Benefits

Easy device alignment

- Joystick pin/ball/pad for fast point-and-click
- 3D position corrections for stretch and rotation
- Display of device simulation and actual camera views for easy position verification

Accurate motions and DUT contacting

- 3 μm accuracy in X, Y and Z
- Optical scale motion feedback on all movements

Large package capable

- X-Y motion system 6" x 6" and Z motion with 3" vertical travel above DUT
- Large charge plate 5" x 5"

Small package capable

- Small contact pin available
- High accuracy placement

L bracket supplied for easy, repeat alignment

- Adjustable for different packages

Non-standard packages

- Multiple regions with different pitch, offset, orientations

Maestro software

- All-in-one PC with Windows® 10 and Maestro Software
- Fully automatic, fast operation
- Same user interface as other GTS PurePulse systems
- Graphical package design tools for easy entry of package and pin/ball locations
- Enter pin patterns or Import pin/ball locations via Excel® files, csv, or text lists

Data capture and review

- Oscilloscope interface for pulse waveform measurements
- Every pulse is recorded in Maestro's database for easy recall using GTS WaveAppraise
- Post-stressing analysis software
- Provides a PASS/FAIL report
- Simple connection to company network(s) for data sharing
- Export in XML or Excel® files with or without waveform graphs

Support

- Software Upgrades with Warranty and Service Contracts

Specifications

Large Test area:	5 in. x 5 in. (12.7 cm x 12.7 cm)
Motion system:	X,Y axis - min. step size .001" with .00025" accuracy (x,y axis - min. step size 25.4 μm with 6 μm accuracy) Z axis - vertical travel to 1.5" with .00025" accuracy (z axis - vertical travel to 38.1mm with 6 μm accuracy)
Test voltage range:	± 75 V to ± 1500 V in 1V steps
Humidity range:	10-80%, non-condensing
Dimensions:	25"W x 33"D x 54.5"H (64cm x 84cm x 138.5cm)
Weight:	323 lbs. (147kg)
Power:	120-240 VAC 10A 50/60 Hz
Vacuum:	Internal pump
Dry nitrogen:	0.05 scfm at 60 psi max

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