

ESD/CDM Simulator Ecdm-800E

8kV HBM and 4kV MM Simulation

HBM, Human Body Model

MM, Machine Model

Wafer test available



Applications

- **ESD Simulator**
 - High Current Test
 - LED Package
 - LED Wafer

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General

Electro-Static Discharge (ESD) is the major reason of the breakage, degradation or malfunction of the semiconductor devices, as design rule becomes more and more precise. The Model Ecdm-800E is a bench top and manually operated simulator that allows ESD simulation such as HBM (Human Body Model) or MM (Machine Model) ESD discharge. To zap, touch the probe tip at DUT pin or PC board pattern, then depress the front panel switch or foot switch. It is easy to zap the location that is not flat. The Model Ecdm-800E simulates Human Body Model (HBM) or Machine Model (MM) by replacing the probe, as an option.

It is also useful to perform the ESD noise immunity test of the LCD panel, PC board and other module. Model Ecdm-800E has 800V and 8000V ranges and higher stress test is possible.

Ecdm series optionally equipped with a coulomb measurement probe that allows the charged or discharged amount of charge to/from the DUT that depends on the charged voltage. Recently, it has been found that this amount of charge that kills the DUT will decide the maximum allowable discharge level in the field so that it will not be damaged.

TLP (Transmission Line Pulse) configuration is available to verify the I/V curve as well as its robustness of the ESD protection circuit. Ask TLP literature if you need detail information of the TLP test.

Tokyo Electronics Trading Co. Ltd. (TET) has been developed fully automated ESD test system including CDM test system in these more than 10 years. The Model Ecdm-100/400/800E has been developed above this background, for the applications that is not suitable for the expensive and automated test system.

The Model Ecdm-800E is particularly developed to verify the high ESD current performance of LED devices. Though it is not recommended, 2000V or 4000V MM stress may be applied to the LED (wafer) so that the real ESD robustness of the LED can be verified.

Specifications

● Standard Specifications

Zap Voltage: 0 to +/-800V or 8000V
(Ecdm-800E)
: 0 to +/-400V or 4000V
(Ecdm-400E)

Voltage display: Digital panel meter

Voltage programming: By Potentiometer

Voltage Range: 2 Ranges (Low/High by Switch)

Voltage accuracy: 5% of setting +/-5V

Polarity: Positive, Negative and Off

Repetitions: 1 to 99 or continuous

Output Enable : Push Switch

Wrist Strap terminal :Available

AC Power: AC85V to 132V or 170V to 264V,
less than100VA, 50/60Hz

● Options

Remote Control: GP-IB

Probes

① HBM Type WE-6HM(JEDEC STD)
8kV Max.

② HBM Type WE-3HM(JEDEC STD)
4kV Max.

③ MM Type WE-7MM(JEDEC STD)

Waveform Specified up to 400V

Above 400V: Waveform cannot be calibrated, but zapping is allowed up to 4kV. Relay life depends on the voltage.

④ TLP: Standard probe for Ecdm-400E

● Jig/Others

① Probe Mounting Stand Type ICJ-1

② X-Y Stage Type TST-1

③ DUT Jig: Made for each DUT

④ Needle Tip: 0.3, 0.5, 1.0 (mm)

⑤ Wafer test jig, Manipulator available

Options



HBM(E-3H) or MM(E-7M) Probe. Type name on case identify HBM or MM.

Automatic curve tracer connection after zap is available upon request. This probe is not available for Ecdm-800E.



HBM or MM probe for wafer or die test. Model name on case identify HBM or MM probe.

Automatic curve tracer connection after zap is available upon request. Only this types are available for Ecdm-800E.



D-CDM probe (P-3A). 2 Types with upper ground plane (ESDA STD) and without upper ground plane (Metal tool discharge simulation) are available. This is not available to Ecdm-800E.



F-CDM probe (P-4F) and control box. Top ground plane size depend on the standard such as ESDA STD or JEDEC STD.

This picture shows Probe Mounting Stand (ICJ-1), X-Y stage, CDM base and DUT jig. This is not available to Ecdm-800E.



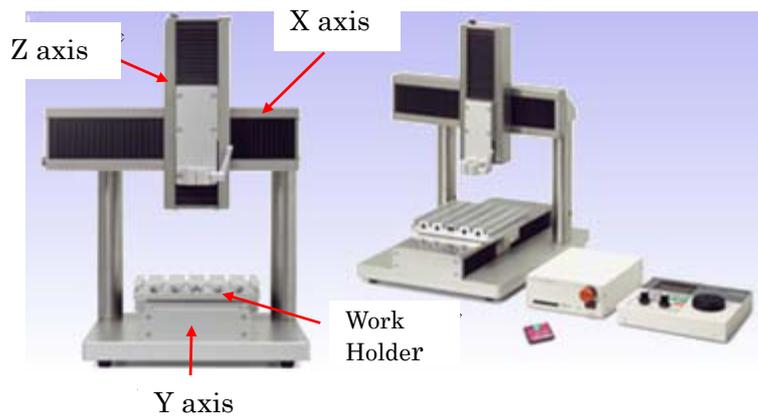
Mobile charge measurement probe (H-1KV) and nano-coulomb meter.

This picture shows Probe Mounting Stand (ICJ-1), X-Y stage, CDM base and DUT jig. CDM base and DUT jig are common for those of CDM test.



Manual ESD test of Wafer Level LED

LED die or LED chip on wafer can be manually tested by this configuration. If manual prober is replaced by a full automated wafer prober, fully automated LED ESD test can be done. Because Ecdm-800E generates very high current ESD pulse, Automated wafer prober may be failed by the ESD noise. Anti-noise design for the automated wafer prober is very important for this type of testers. Also, if high speed/high current ESD stress is required, 2 ESD probes should be purchased to decrease the downtime to repair it because relay life is decreased.



Above 3 axes robot may be used to test multiple packaged LED automatically using a custom made test head loaded above the work holder and 2 pin contact head held on the Z axis.

Specification subject to change without notice.

Contact to: