

ITC59000

test platform



overview

The ITC59000 Test Platform is a desktop Dynamic Parametric Test System mainframe. The ITC59000 Test Platform accepts up to four Test Measurement Units (TMUs) that perform transient measurements on semiconductor devices such as power MOSFETs, IGBTs, and diodes. The four TMUs may be of the same type or different to perform different tests. The TMUs are specifically designed to perform a particular test and provide test results and binning based on user-defined specifications and sorting criteria.

Because the ITC59000 Test Platform can contain up to four TMUs that operate in parallel, it can control four handlers or some combination of one to four handlers. The ITC59000 provides data logging and statistical information regardless of the type of TMU installed. A database stores all test specifications, handler configurations, test results.

Long cables and the overall length of contact to the device under test (DUT) could introduce noise or parasitic inductance/capacitance into the test. To overcome this each TMU is connected by a cable to a small measurement pod. The measurement pod needs to be located as close as practical to the handler contactor or manual test socket but the main test unit can be located where it is practical and comfortable for the operator to use.

features

- Up to 4 Parallel, processor controlled, independent TMUs
- TMUs are completely floating to allow for parallel half and full bridge tests
- Pentium Computer with embedded XP Operating System and an 80 GB hard drive
- Front and rear panel USB ports for Keyboard, Mouse and Printer (not required for local operation)
- LCD front panel touch screen for all user inputs and results display
- VGA Connector on rear panel
- 10/100 Ethernet
- 4 independently programmable Handler interfaces
- Operator log-in and access control for better tracking
- Local and remote operating modes
- Self check of all operating voltages to ensure accurate measurements and results
- All devices in a package are tested before sorting and binning.

TMU types

Shown below is a list of the Test Measurement Units planned for the ITC59000 Test System Platform. The first TMU to be released is the ITC59100.

- ITC59100 Qg/Rg

EXTERNAL TMU's

ITC55100 and ITC59/55TSM - The ITC59000 has the ability to control the ITC55100 and the Test Site Multiplexer(TSM) as an external TMU that allows the user to run a dual DUT device and perform UIL/Rg/Qg on both die (requires two ITC59100 TMU). Results data is combined on the ITC59000 to determine the pass/fail condition of the DUT.

NOTE: ITC may have other TMUs under development. Please call for information on the latest TMUs or if you have a special requirement.

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binning description

Sort criteria from the individual TMU's are passed to the ITC59000, where Boolean logical operators are applied to sort the tested device into logical bins. An unlimited amount of logical bins can be defined and used to understand yield/failure mechanisms within a production lot. Logical bins are mapped to physical handler bins based on the number of bins available on a given handler type.

handler control

The ITC59000 can contain up to four TMU's and can control and connect to up to four single contact site test handlers. This gives maximum flexibility for the production floor with numerous possible combinations of handler configurations.

examples

An ITC59000 with four TMU's installed can control:

- Four single site test handlers running independently from each other
- Two dual site handlers each running single device packages independently
- One quad site handler running single device packages
- Two single site handlers, each running dual device packages
- One dual site handler running dual device packages
- Up to four contact sites on a rotary or in-line handler
- One single site handler running a quad device package

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