

ITC55100STD

unclamped inductive load tester



overview

The ITC55100STD is a single site 100A version of the industry standard series of ITC55100 testers. The ITC55100STD performs all the same tests as the ITC55100 system but has a single test port and a maximum drain current capability of 100A for improved price/performance in single DUT production testing applications.

Model ITC55100STD performs ruggedness testing of power MOSFETs and IGBTs. It also tests single and dual diodes, and forward and reverse bias of IGBTs when used with an optional ITC55-RSF Output Selector Box.

The ITC55100STD performs several types of tests that conform to MIL-STD-750C Method 3470. Method 3470 tests the capability of P- and N-Channel MOSFETs and IGBTs by stressing them to controlled energy levels. This is accomplished by the devices driving an unclamped inductive load.

test modes

- Single-Pulse Unclamped Inductive Switching (UIS)
- Single-Pulse Avalanche Stress (EAS)
- Repetitive Avalanche Energy (EAR)
- Repetitive Pulse to Failure (RPF)

test performed

- Continuity test of device socket and/or contacts
- DC zero gate bias Drain-to-Source leakage test
 - pre and post avalanche
- Functional device test
- Avalanche test

features

- Single Device Testing
- N channel or P channel
- Faster Testing
- EAR 1 million pulses
- Timing Resolution of 40ns
- Current Range: 0.1A to 100A, 0.1A Steps
- Avalanche Voltage to 1500V
- Bipolar Gate Drive with 28V Swing
- Touch-Screen Program Entry/Control
- Waveform Capture/Display
- Internal Test Program Storage (20 files)
- Network Capable Software
- High Speed Inductor Charging, Reduces Test Time
- Programmable Leakage Test Voltage
- Pre/Post Avalanche Leakage Test
- Avalanche Collapse Test
- Versatile Test Handler Control
- Up to 15 Hardware Sort Bins
- Improved Voltage/Current Accuracy
- Software Updates via Flash Download
- Password Control of Parameter Entry
- Operates with all ITC Inductor Load Boxes
- Interfaces with ITC55MUX4 & ITC55-RSF
- Built-in Self Test

safety features

- Test time-out
- Excessive leakage shutdown
- External safety lockout
- Two parallel connected Manual Start push buttons
- Device currents are constantly monitored. Testing is terminated if currents exceed or fail to reach programmable levels in a specified or calculated time.

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available interfaces

- Serial communication and control interface
- IEEE 488 GPIB control interface
- 15 bin handler control interface for improved sorting of failures for process control analysis

available options

- External Inductor Boxes

Several models of External Inductor Boxes are available:

ITC5514A: Manually selected inductance: 0.01 to 159.9mH (200A/2500V)

ITC5514B: Automatically selected inductance: 0.01 to 159.9mH (200A/2500V)

ITC5515: Automatically selected inductance: 0.1, 0.3, 1.0, 3.0 and 10mH (200A/2500V)

ITC5516: Automatically selected inductance: 0.001 to 0.300mH (400A/2500V)

ITC55140: Automatically selected, high speed switching, inductance: 0.01 to 159.9mH (200A/1500V)

ITC5517: Automatically selected inductance: 0.01 to 79.9mH (200A/2500V)

ITC55170: Automatically selected, high speed switching, inductance: 0.01 to 79.9mH (200A/1500V)

ITC55190: Automatically selected, customize 10 fix inductances (400A/1500V)

- ITC Multiplexers Dual and Quad Die Testing
- ITC55X00-DTF DUT Test Fixture with a known good “golden” DUT installed and with ITC factory test results so the ITC55x00 tester can be verified for correct and accurate operation.
- ITC55-RSF Output Selector Box allows the ITC55100 Testers to test various configurations of MOSFETs, IGBTs, and dual and single diodes without having to replacing the DUT fixture up to 1500V avalanche voltage.
- ITC55X00 HNDIF Interface between ITC55X00 UIS Tester and handler’s test contacts or Manual test fixtures.
- ITC-MTF-55HV-2017 Manual Test Fixture, Dual Die with plug-in Socket boards.

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