

ITC55350

unclamped inductive load tester



overview

Model ITC55350 is the high current (600A) version of the ITC55100 tester. The ITC55350 performs the same tests as the ITC55100 and includes many features that improve testing accuracy, test results collection, test results viewing, and multiple tester networking.

Model ITC55350 performs ruggedness testing of power MOSFETs, discretes and modules and IGBTs, discretes and modules. 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 ITC55350 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)

tests 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
- All Solid State Switching – No Relays
- Faster Testing
- Current Range: 50 to 600A in 1A Steps
- Avalanche Voltage to 2500V
- Touch-Screen Program Entry/Control
- Waveform Capture/Display
- Internal Test Program Storage (20 files)
- 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

- IEEE 488 GPIB control interface
- ITC5510 compatible 5-bin handler control interface
- 15 bin handler control interface for improved sorting of failures for process control analysis

available options

- External Inductor Boxes
Seven 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)
- ITC55MUX4 Box to allow multiple devices to be tested by the same tester.
- ITC55-RSF Output Selector Box allows the ITC55350 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.
- ITC55HVD1 (High Voltage Diode Interface Box) - The ITC55HVD1 is a high voltage avalanche interface adapter box option for testing diodes using the ITC55300 at voltages up to 2500v.
- MTSDGEN Generic Test Socket may be used with the ITC55350 tester to provide a convenient method of manual avalanche testing for single or dual devices.

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