ITC55
product series

Integrated Technology Corporation

data sheet

unclamped inductive load tester

ITC55100
Model ITC55100 is the industry standard test system for avalanche testing of Power MOSFET's, IGBT's and Diodes. Peak current can be set as high as 200A, and breakdown voltages up to 2500V can be handled. As standard the ITC55100 is configured with two test ports so as well as testing a single device, it can also test dual N-channel, dual P-channel or a combo N and P channel package. Tests performed conform to MIL-STD-750D Method 3470 which defines how to test the ruggedness of MOSFET's and IGBT's by stressing them to controlled energy levels.

ITC55300
Model ITC55300 is a higher current (400A) version of the ITC55100 tester. The ITC55300 performs the same tests as the ITC55100 and includes the same features that improve testing accuracy, test results collection, test results viewing, and multiple tester networking. The ITC55300 also has the added capability of testing dual devices; N-channel, P-channel or combination.

Like the Model ITC55100 the Model ITC55300 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.

ITC55180
Model ITC55180 is a modified version of the ITC55100 specifically designed to test devices with low avalanche energy and fast avalanche times. To be able to perform these tests the parasitic capacitance between the tester and the DUT has to be reduced to an absolute minimum.
There are two models of this tester, the ITC55180LCN for N-channel power MOSFET's and ITC55180LCP for P-channel.

ITC55400
Model ITC55400 is the high current (800A) version of the ITC55100 tester. The ITC55400 performs the same tests as the ITC55100 and includes the same features that improve testing accuracy, test results collection, test results viewing, and multiple tester networking. The ITC55400 is configured with a single test port for testing individual high current devices.

Model ITC55400 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.

ITC55WPS
ITC has developed a unique patent-pending product line that makes it possible to fully test high-voltage, high-current power semiconductor devices at the chip and wafer level using a probe card. These systems can be built up in modular form with four different configurations designed to meet the needs of semiconductor manufacutters from small volume, custom hybrid manufacturers to high volume, single product manufacturing.

ITC Wafer Probe Systems can adapt ITC package-level testers for wafer-level and die-level testing.

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inductor boxes for avalanche test

ITC's Load Boxes enable users to select precision inductance values for device energy testing as per MIL-STD-750, Method 3470 and are specifically designed to extend the testing range of ITC's Unclamped Inductive Load Testers.

All Load Boxes perform the same function but provide different inductance ranges or capabilities. Inductance values are manually selected in the ITC5514A and electronically selected in the ITC55140, ITC5514B, ITC5515, and the ITC5516.

• ITC5514A - The ITC5514A is one of two ITC5514 External Inductive Load Boxes specifically designed to extend the operating range of the ITC55100 Unclamped Inductive Load Testers.
Range - 0.01 - 159.9 mH
Manually selected inductance values

• ITC5514B - The ITC5514B is one of two ITC5514 External Inductive Load Boxes specifically designed to extend the operating range of the ITC55100 Unclamped Inductive Load Testers.
Range - 0.01 - 159.9 mH
Inductance values are automatically selected by the test system

• ITC5515 - The ITC5515 is a low cost External Inductive Load Box specifically designed for the ITC55100 Unclamped Inductive Load Testers.
Values - 0.1, 0.3, 1.0, 3.0, 10.0 mH
Inductance values are automatically selected by the test system

• ITC5516 - The ITC5516 High Current External Inductor Box is specifically designed to work with the ITC55300 High-Current Inductive Load Tester and provides inductance range from 0.001 mH to 0.300 mH in 0.001mH steps. The ITC5516 is capable of handling up to 400 amps of drain current to match the higher current capacity of the ITC55300 .
Range - 0.001 - 0.300 mH in 0.001 mH steps
Inductance values are automatically selected by the test system

• ITC5517 - The ITC5517 is a lower cost version of the ITC5514 Inductive Load Box with a reduced inductor set specifically designed to extend the operating range of the ITC55100 Unclamped Inductive Load Testers.
Range - 0.01 - 79.9 mH
Inductance values are automatically selected by the test system

• ITC55140 - The ITC55140 programmable inductor box uses solid state switching and was designed to work with all of ITC's 55X00 series test systems to allow high-speed selection of inductance values from .01-149.9mH. The ITC 55140 allows for testing of two DUT s that require different inductor values for each DUT with break down voltages that are less than 1500 volts peak. Inductor selection speed of the ITC 55140 is approximately 1 millisecond to allow the ITC55X00 to operate at maximum throughput when testing dual devices with different inductor load values.
Range - 0.01 - 159.9 mH
Inductance values are automatically selected by the test system

• ITC55450 - The ITC55450 is an extended range External Inductive Load Box specifically designed to extend the operating range of the ITC55100 Unclamped Inductive Load Testers.
Range - 0.01 - 450 mH
Inductance values are automatically selected by the test system

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