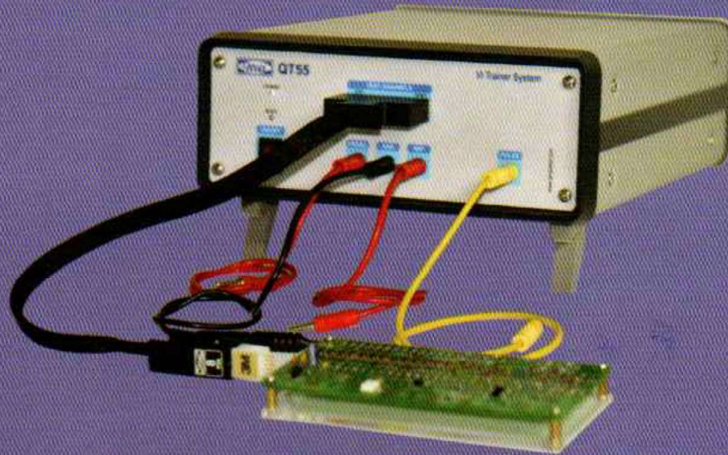


QT55



V-I Signature Test Trainer System



To educate the students on the basic principles of testing discrete components such as resistance, Capacitance, Inductance, diodes, transistors and filter circuits using voltage vs current (V-I) characteristics. Using this trainer basic power electronics components such as MOSFETs, diacs, triacs, SCRs and opto couplers can also be tested using trigger pulse & signature method.

Signature Method of Testing is also known as VI Trace Characteristics, is a proven fault diagnostics technique In Power-Off state while testing a board. By applying known wave from signal with desired Voltage, source Impedance and Frequency of the stimulus signals, depending upon the test node and its characteristics, a Voltage (V) vs current (I) graph is plotted and studied. It is a portable instrument.

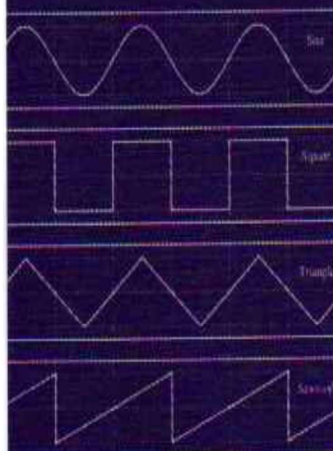
QT 55 V-I Signature Test Trainer System Consist of following technical specification:

Interface: USB 2.0 Interface between the Main Sequencer and User PC

RAM: 1K X 60 Bit RAM for Instruction Register

Timing features: Basic Timing Unit is Programmable from 10 ns to 655us in steps of 10ns. Time Duration is Programmable Up to 256. Test Vector Depth is up to 16K

Analog Module Part: 3 Channels, Analog Sampling rate of 25 Mhz, Generates Output frequency Up to 100 KHz, Memory behind each Pin is 16K X 24 (Drive & Receive), Module have 4 different programmable voltage ranges as +/- 1V, +/-3V, +/- 6V, +/- 13V, Drive Pattern Sine / Triangular / Rectangle / Ramp / DC and User Definable. Source Impedances can be 10 Ohms, 50 Ohms, 200 Ohms, 1K Ohms, 5K Ohms, 10K Ohms, 50K Ohms, 100K Ohms and Open



Current
Varistor



12 Bit resolution of DAC /ADC is available to provide very accurate results. All the independent Analog Channels can be multiplexed to any of the 32 Test Channels Generate Pulse Max Upto 12V

Software

Signature Method V-I Test Software will be supplied to measure the VI Characteristics. Device Library for V-I Trainer is included. Power Supply: System Power: Single Phase AC of 110V-60Hz / 230V-50 HZ (Maximum of 0.5 KVA). Operating environment 35°C +/-5°C



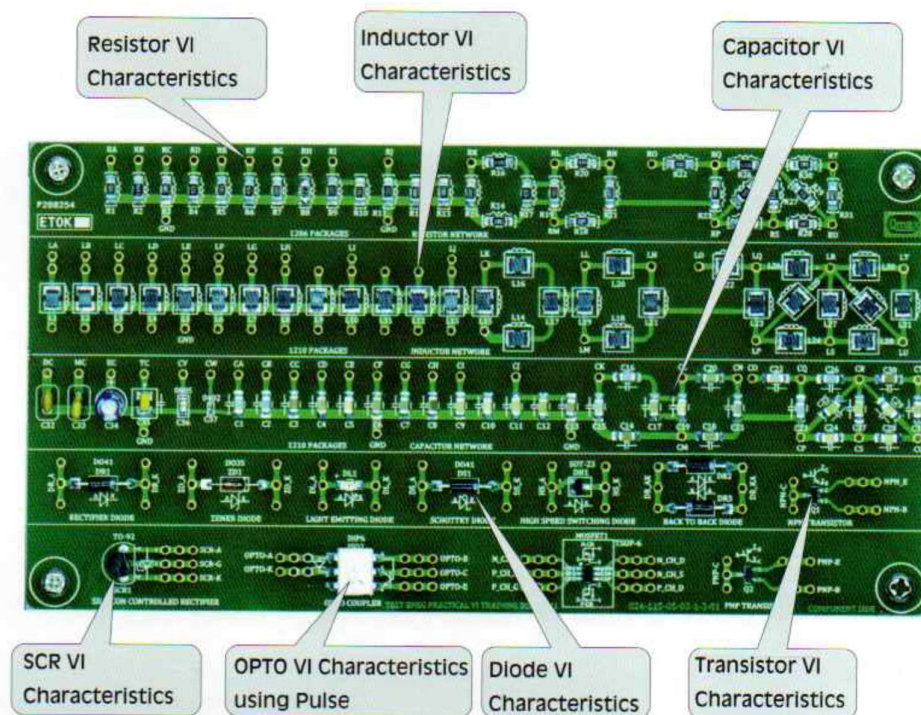
VI Signature method is safe while testing components because the signatures are acquired without applying power to the board / device under test. More importantly, the Signature method can be used to test components even on a damaged PCB, which cannot be powered up for testing.

The trainer system also helps to plot Voltage vs Time and Voltage vs Impedance characteristics of the node under test in a board.

Analyzing and comparing signatures obtained can lead to find faults in a board such as;

- Leaky components
- Damaged components (internally)
- Intermittent behavior of device with frequency
- Short / Open circuits Inboard Interconnections

Graphical representation a quick to understand the phenomenon, will be an useful methodology for the student to learn the component/nodal characteristics and troubleshoot



By doing these VI Characteristics experiments, one can understand the concepts of analog signature analysis and its test methods. It is also called as VI-Characteristics. By this students will come to know how to learn the characteristics of each and every passive and active components using test engineering practical trainer kit.

Experiments cover the fundamentals of VI-Characterizes and Its test methods using the OT55 VI Signature test trainer system.

These will cover the concepts of VI-Characteristics and Its various curve traces like, Short Circuit trace. Open Circuit trace. Resistor capacitor Inductor and Diode trace, Traces using triggering pulse for SCR, and much more; In this student will understand how and where to adopt the VI-Characteristics test methods while diagnosing the PCBs in power-off conditions.

Recommended minimum PC/AT configuration : Core i3 processor, 4GB RAM, 500GB HDD, CD/DVD combo drive, 2 USB ports, Key board, Mouse, 15" Monitor, Windows7 Professional 32/64 bit OS.

Qmax reserves the right to change system specifications without prior notice; Qmax is the registered trademark of Qmax Group; QSM is the innovative signature method developed by Qmax; Windows is the registered trademark of MicroSoft Corporation; Intel is registered trademark of Intel Corporation. All the other trademarks are acknowledged.



— where standards are set; not matched.

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