



The STD Series Event Detector

Economical, High Channel count, Surface Mount Solder Joint Reliability Monitor

The STD Series Event Detectors offer test specifications associated with solder joint reliability testing but can also be used for testing other types of interconnects accordingly. Like other Event Detectors, the STD series provides **continuous** transient resistance detection referenced to a selected threshold resistance with a high degree of electrical noise immunity.

The STD Series offers the lowest cost-per-channel and is available with up to 256 channels per instrument. In addition, these instruments can be linked together to effectively function as a single Event Detector with up to 1024 channels. The STD Event Detectors offer ease of operation with WinDatalog Software for data collection and analysis.

Features

- Threshold Resistance Range: 100 to 5,000 ohms, user adjustable
- Minimum Event Duration: 200 nanoseconds, fixed
- Channel Sense Current: less than 1.2mA, fixed
- Systems available with 64, 128, 192 and 256 channels
- Custom and special features to meet test specifications



Features Included with All Event Detectors

- WinDatalog, data collection/analysis software
- RS232C serial data transmission to PC computer (cable included)
- Linkable with other Event Detectors (linking cable required)
- Test input cables (10 foot length)
- Limited warranty, 1 year parts and labor

The STD Event Detectors simultaneously monitor individual continuity loops with independent sense-currents flowing in each loop. The detection speed and resistance threshold range make the STD series ideal for solder-joint reliability studies. Such tests typically use "daisy chain" solder joints in wire-bonded packages mounted on special test-PCBs. These test boards are then thermally cycled, vibrated, shock-dropped, or mechanically flexed while being monitored with Event Detectors. The initial, short duration, intermittent failures of the joints are detected and recorded automatically with the cycle number, time, and date. With this technique, variations in interconnect design and soldering process parameters can be evaluated by direct comparison of test results. This type of electrical monitoring has proven to be far more reliable and less expensive

than visual detection of solder joint failure. Other recent applications of STD Event Detectors include flex-circuit testing, flexible biomedical-cable testing, switch-chatter studies, and automotive electronic interconnect testing. New application needs are welcomed; call and discuss your needs with our engineering staff.

For thermal cycling tests, the [STD Temperature Module](#) is a highly recommended system

option. The STD Temperature Module is installed in the same chassis as the STD Event Detector, and continuously monitors the temperature of the thermal test chamber. The Temperature Module adds failure-temperature data to the event data as well as tracking the *thermal* cycle count for failure analysis based on actual thermal cycles, rather than data collection cycles.

STD Event Detectors are normally supplied with a single, common Threshold Resistance (Vref) adjustment for all channels. A [Multiple Threshold Resistance Adjustment](#) option is available for STD Event Detectors that provides a separate resistance threshold setting for each bank of 64 channels.

Electrical Specifications

Threshold Resistance Range	100 to 400 ohms (low), 300 to 5000 ohms (high)
Channel Current-Source Max Compliance	0.6 volts(low) / 9.8 volts (high)
Maximum Channel Sense Current	1.2 mA maximum
Typical Threshold Resistance Tolerance	+/- 4%
Maximum Threshold Resistance Tolerance	+/- 10%
Nominal Event Duration Sensitivity	200 nS
Minimum Duration Event Detection Tolerance	+0, -10%
Supply Voltage	120VAC, 60Hz, 3 amps (unless otherwise specified)
Input Cables	Standard: PVC ribbon cable, 105 °C max Optional: Hi-temperature cable, 180°C max
Dimensions	6.5" H x 16.5" W x 12" D
Weight	20 lbs

STD Event Detector Systems include: WinDatalog Software, test input cables (10 ft long, PVC insulated) single-ended, serial communication cable, complete instruction manual, 1 year limited warranty.

Options: [Temperature/Actuator Module](#), [STD Temperature Module](#), [High Temperature Test Input Cables](#), [Linking Cable](#) and [Multiple Threshold Resistance Adjustment](#).

Ordering Information

Order numbers: 64STD, 128STD, 192STD, 256STD. Standard delivery: 1 week. FOB Wakefield, MA. Specify AC Line voltage. Custom orders welcome. FREE two week demo/evaluations offered.