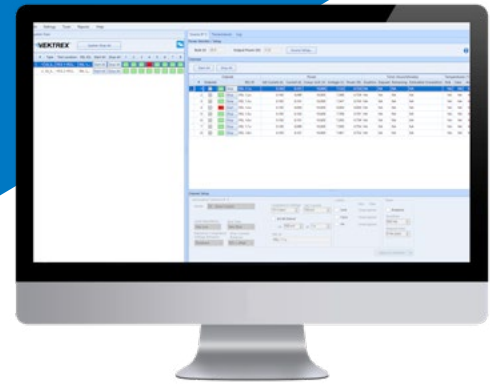


STARS software application pairs with SpikeSafe Current Sources to provide control and monitoring of 1 to 512 independent source channels.



Monitor with STARS

SOFTWARE SIMPLICITY

STARS (SpikeSafe Test and Reliability Software) is an easy to use software application. STARS manages 1 to 512 independently controlled source channels enabling unattended, automated operation of reliability, burn-in, LM-80, IEC-Q102 and other semiconductor device specific tests. With STARS, users Configure, Control, Monitor and Manage hundreds of simultaneous tests. For high capacity applications, STARS performs a commander function driving devices in multiple chamber configurations that may fill an entire room. STARS simplifies management of tests and the associated data. STARS reduces high labor costs associated with other semi-automated applications.

MANAGE THOUSANDS OF DEVICES/HUNDREDS OF SIMULTANEOUS TESTS



Full cabinet with STARS

With just one glance, the status of thousands of devices/hundreds of tests is known. Total tests in operation and total power usage are indicated. Color coding indicates where operator actions are required to return test to operational status. Messages indicating required actions are displayed then cleared by the operators once resolved.

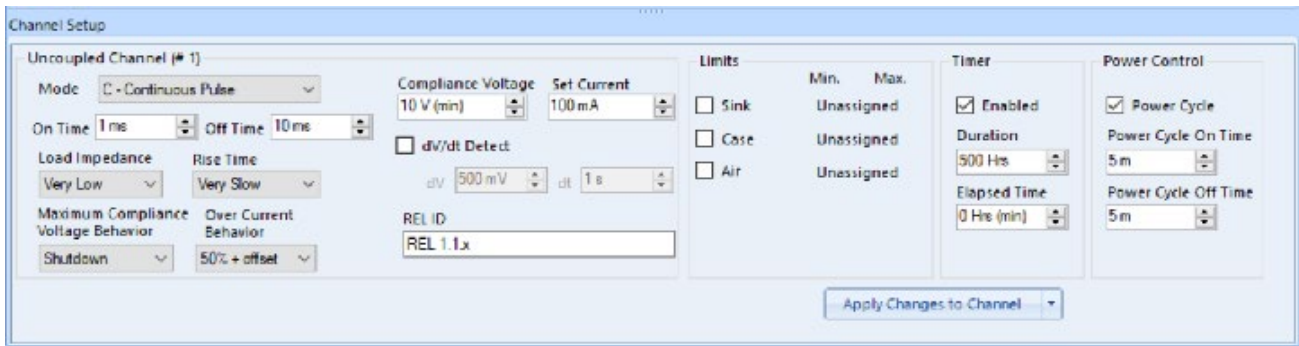
With hundreds of tests running simultaneously finding a specific load board/test is difficult. With STARS, define and attach test location tags to your tests. Test location tags may indicate chamber number, ZONE, Lot or any other identifier specific to your test lab. Unique reliability IDs defined by you are used to name the reliability data log files.

Management functions simplify planning by displaying and sorting tests by parameters such as duration time remaining.

Security features allow technical experts to define security and test parameters. Operators do not need to enter test parameters reducing errors and wasted test time. Operators may only need to press "START" button.

STARS and SpikeSafe current sources work in tandem to protect devices under test. Three levels of protection parameters are defined by the expert/operator, set in STARS and reported by STARS. With STARS and SpikeSafe, your devices can be protected.

INDEPENDENT CONTROL OF EACH SOURCE CHANNEL



SpikeSafe 400 Source channel configure screen

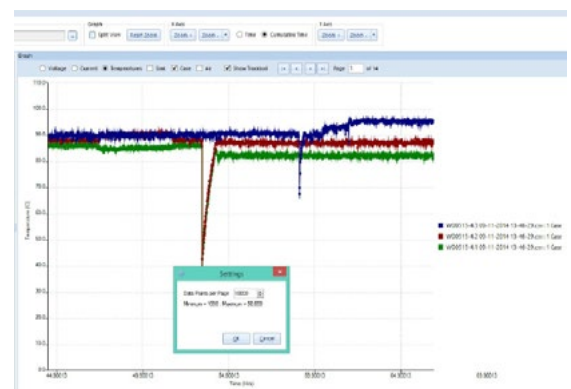
STARS allows independent control of each source channel. With the easy-to-use STARS software interface, users specify key test parameters such as test mode, operating parameters, device protection parameters and unique test identification. Test mode defines how the device is powered; how current is applied to the device. Test modes include DC, Pulsed, PWM, Modulated Current and Triggered. Key operating parameters include current, maximum compliance voltage, test duration and any operating mode specific parameters. For example, pulsed test mode requires entry of pulse parameters such as minimum pulse width. During testing, these operating parameters are monitored continuously, time-tagged and output to data log files at a user-specified interval. Failure events are also logged and time-tagged, thus providing details for devices failure analysis. Used by the world's leading manufacturers, STARS simplifies controlling and collecting data for crucial reliability tests.

PROTECTION

STARS and SpikeSafe current sources work in tandem to protect devices under test. Three levels of protection parameters are defined by the expert/operator, set in STARS, and reported by STARS. Level 1 protection for devices is SpikeSafe hardware specific. SpikeSafe patented transient protection proactively and rapidly shuts down power to devices when an anomaly is detected. Spikesafe protection parameters include over current, over voltage, device open and more with device shutdown as fast as 1us. Level 2 SpikeSafe protections require calculation. For example, a level 2 protection is dv/dt. Level 3 protections are based upon thermal data. With STARS failsafe temperature monitoring, RTD or thermocouples are monitored and compared against operator specified upper and lower limits. When a thermal limit error occurs, power to devices associated with the thermal limit are shutdown. Failsafe temperature monitoring is useful for LM-80 data compliance. Failsafe temperature monitoring is most important to prevent thermal runaway conditions – where the chamber or thermal control has failed yet the devices are still actively heating. With STARS and SpikeSafe, your devices can be protected.

VISUALLY DETECT ERRORS AND ANOMALIES

STARS continuously monitors and logs voltage and current data and all events associated with a test/source channel. The test logs are uniquely named by the operator. The data format is .CSV and easily imported into spreadsheets or databases. The log file can also be viewed with STARPlot. STARPlot provides a graphical view of the data where defects such as internal shorts in LED arrays, connector wear, and even thermal problems may be identified.



STARPlot of Data Log shows LED Array with Internal Shorting Fault