

ATE-LD-XXXX-4000

TEC Laser Diode Reliability & Burn-In Test System

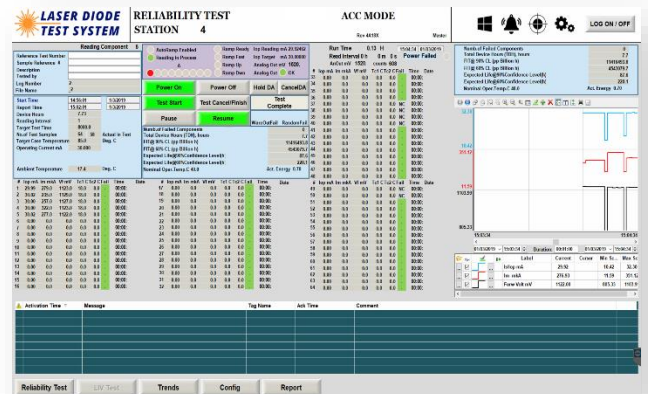


The laser diode test system is Automated Test Equipment (ATE) that provides precise TEC thermal control within $\pm 0.3^\circ\text{C}$ for lasers operating up to 1 A.

The automated test system is a low-cost, high-performance solution for accelerated aging, burn-in, and qualification testing of laser diodes.

Powerful Software Interface

- An easy-to-use GUI provides real-time testing and functional reports
- Multiple test scenarios are easily configured without complicated programming.
- FIT (Failure in Time) & Mean Time to Failure (MTTF) calculation
- LIV Curve, Threshold Current, Operating Current, Forward Voltage, Monitoring Current and Data Collection
- Designed for use by Operators & Supervisors
- E-mail notification



Custom TEC Temperature DUT Board

- Each module allows separate temperature and measurement settings for 16 laser diodes per module.
- TEC thermal control within $\pm 0.3^\circ\text{C}$ for lasers operating up to 1 A
- Designed to operate up to 125°C
- Custom laser diode test fixture boards are built to meet your packaging & test specifications



Technical Data

Reliability Test	FIT (Failure In Time), MTTF (Mean Time to Failure)
Measured Quantities	Optical Power, Current, Forward Voltage (LIV), Temp
Type of Mode of Operation	ACC, APC, LIV CoC, CoS, TO-CAN, Butterfly,
Laser Types	Optical Communication Laser Modules, Custom Laser Assembly Modules
Number Test Components	64 - 4096
Current Range	4 mA – 1000 mA
Current Accuracy	0.1% F.S
Source Measure Board	DUT - Custom Interface Test Fixture
Current Sweep	Up to 1000 mA
Maximum Current	1000 mA
Optical Power	SI or InGaAs Photodiode
Cooling -TEC Air Cooled	Ambient to 125°C
TEC Temperature Stability	± 0.3 °C
Input Voltage	110V - 240V AC
Power Consumption	500 Watts
System Dimensions (mm)	600 (W) × 1000 (D) × 1200 (H) (size based on 128 component testing)
Material	Aluminum/Steel

Essential Features

- **Conforms to Test Standards**
Telcordia (Bellcore) GR-468-CORE
MIL-STD-883E, Test Method 1016
- **Types of Testing**
Accelerated aging, burn-in, and qualification testing
- **Power Monitoring & UPS Backup**
Power Failure mode ensures data integrity even through power blackouts
- **Laser Diode Protection**
Custom current high/low limits are set to protect the laser from damage during burn-in or reliability testing

Advantages

Primary Advantage: Fully customized reliability system combining scalable capacity, modular drawer maintenance, and dedicated TEC thermal control.

Dedicated Support & Diagnostics: Secure remote access allows Electron Test Equipment engineers to assist your testing team in real time and resolve technical inquiries quickly.

Configuration & Scalability: Accommodates 64 to 2,944 lasers, allowing capacity growth by adding modules as production and reliability testing requirements increase.

Platform Versatility: A single unified platform supports engineering, qualification, and high-volume burn-in testing.

Maintenance & Serviceability: Individual drawers can be independently accessed, serviced, or modified without interrupting system operation.

DUT Fixturing & Package Support: Features custom laser package integration and dedicated DUT fixtures.

System Architecture: Modular architecture featuring 16 lasers per drawer.

Thermal Control: Dedicated TEC temperature control system per drawer, engineered around the customer's specific laser and thermal load.