reliable affordable flexible

HIGH POWER LRS-9550

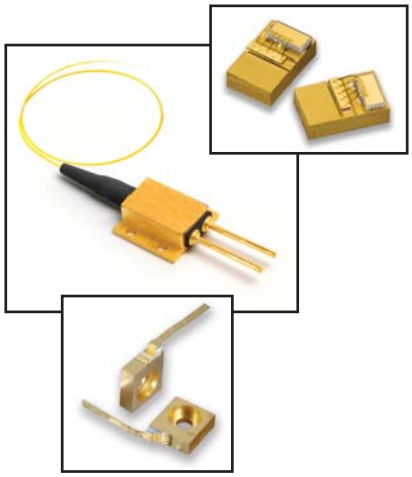
LASER DIODE LIFE-TEST AND BURN-IN SYSTEM

ILX Lightwave
Laser Diode Instrumentation & Test Systems

LRS-9550

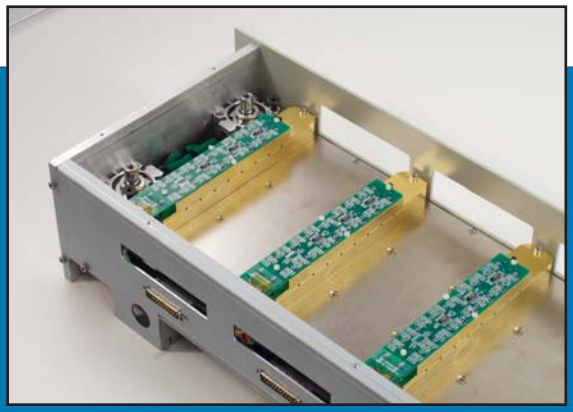
High Power Laser Diode Life-Test and Burn-In System

Reduce your cost of test with the new LRS-9550 high power laser diode life-test and burn-in test system. With up to eight independent temperature controlled shelves supporting up to 512 high power devices per system, you will be able to run multiple independent tests, increase throughput, and lower your cost of test.



The LRS-9550's flexible design allows you to accommodate multiple package styles in the same system. The system supports ACC and LIV test modes with standard current ranges as high as 40 amps per device. Fixtures are individually temperature controlled to provide typical stabilities of better than 0.2°C from 25°C to 85°C.

The 9550's ReliaTest™ system control software enables you to get your tests up and running quickly. Multiple device types and test scenarios are easily configured without complicated programming. Careful attention to data management and fault mode handling ensures data integrity even through power black outs.



Combine life-test, burn
engineering evaluation in
effective platform with th

Life-Test

Optical Measurement Stability of 0.2% Over 1,000 Hours Yields Accurate Aging Data

Based on proven ILX Lightwave precision laser control and measurement technology developed over the past twenty years, the LRS-9550 provides you with the long term system stability required to yield accurate and repeatable accelerated aging trend data for your devices. Improve your results with constant current (ACC) mode measurement stability of 0.2% over 1,000 hours, combined with continuous in-situ monitoring of laser voltage, and optical power throughout your life-test.

Circulating water and embedded fixture level TEC elements work together to offer you precise thermal control of your devices throughout a long-term life-test. Careful design and laser protection circuitry allow series connection of eight lasers to achieve high density and low cost. Parallel laser connection is also available when maximum channel isolation is required. Shelf level integrating shere arrays are heat sunk to the cold plates and thermally controlled for highest stability.

The LRS-9550 system includes ILX Lightwave's ReliaTest™ software to quickly configure and run multiple device test scenarios without complicated programming. Get powerful data logging, data back up, and data review features for multiple, simultaneous tests. ReliaTest's fault handling ensures that valuable life-test data is preserved even through power black outs, brown outs, and control computer shutdowns.

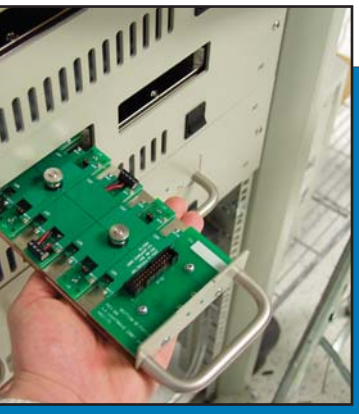
Burn-In

Up to 512 Device Reliability Lower Burn-In Cost

The LRS-9550 system's A
combined with the highes
design offer you the low c
to succeed in today's com
Multiple levels of laser dio
circuitry, normally closed s
startup and power shutdo
your devices move safely
Additionally, monitoring ci
stabilized before current is

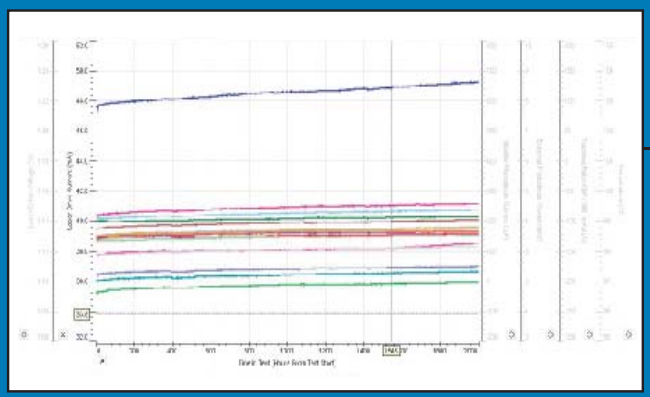
Pneumatic clamping make
simple. Through a proprie
velocity turbulent flow thro
plates remove up to 2600
Fixture device thermal inte
flatness for minimum therm

The system's modular des
accommodate more devic
and calibration are made
modular power supplies.
includes LD open, short, t
functions critical to produc

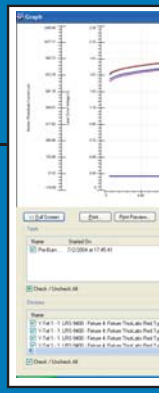


n-in, and to one cost e LRS-9550

Save, view, and graph data w



Long Term Aging Trend



Engineering Evaluation

es Per Rack and Excellent r Your Production

ACC mode series configured burn-in fixtures, t quality materials selection and mechanical ost per channel and high reliability required npetitive high power laser diode market. ode protection including transient suppression shorting relays to protect lasers during power wn, and current/voltage limits ensure that through the burn-in screening process. rcuitry ensures that power systems have s supplied to the devices under test.

es device loading and unloading fast and etary cold plate design that incorporates high ough parallel mini-channels, shelf level cold W of heat per shelf, 20 KW per system. erfaces are nickel plated and offer high mal impedance.

sign allows you to expand in the future to ces and multiple package styles. Servicing easy through rear mounted electronics and Comprehensive burn-in fault monitoring emperature limit, leak, flow, and other ction environments.

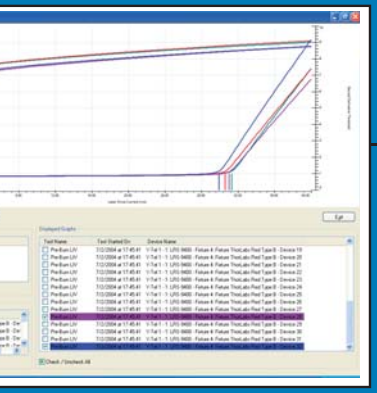
Multiple Simultaneous Tests and Temperatures Provide Flexible Device R&D

The LRS-9550 has been designed from the ground up to give you the flexibility and accuracy required to analyze high power laser diode device performance over a wide range of operating conditions. Run LIV tests at single or multiple temperatures, determine device operating parameters such as Pop @ Iop and Vop @ Iop, and perform aging tests at multiple temperatures to determine activation energy.

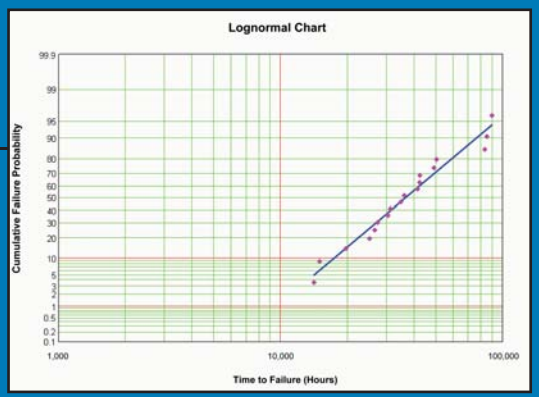
Use the powerful ReliaTest™ software to log and analyze data, or export your test data in CSV format for analysis with other software. The 9550's Windows® based system control software is designed to provide at-a-glance device status monitoring, active alarms, and event messaging, allowing you to easily monitor your tests in progress.

The shelf based modular design of the LRS-9550 lets you run multiple simultaneous tests on different package styles at different power and temperature levels. Characterize your devices over a temperature range of 25°C to 85°C. With the 9550, you can combine engineering evaluation, production burn-in, and long-term life-tests into one cost effective platform.

with our powerful ReliaTest™ software



In-Situ LIV



Cumulative Failure Probability

Why Choose ILX Lightwave?

Experience.

For twenty five years, ILX Lightwave has been a pioneer in laser diode instrumentation and test systems, starting with the industry's first precision laser diode current source in 1986. Since then, we have continued to grow and evolve with the expanding photonic industry, building a tradition of innovation, quality, and customer service.

Quality.

ILX Lightwave has maintained ISO 9000 certification since 2001. Strong internal systems for problem identification and resolution have resulted in continuous improvement of our products and services. We believe that quality is not just something you build into a product; it's something you build into everything you do.

Commitment.

ILX Lightwave's mission is to be the world leader in laser diode instrumentation and test systems. The company's Laser Diode Test Systems group is led by the President to ensure high focus.

After Sales Support.

ILX understands the need for fast, technically accurate responses to all support requests. In addition to customer service engineers, our test system customers have direct access to ILX Lightwave application and design engineers to ensure the highest level of technical support.

LRS-9550 Specifications

System

System Capacity	
10A per device	512
20A per device	256

Temperature Control

Control Type		TEC and circulating water with digital PID control
Temperature Range[2]	°C	25 - 85
Multiple Temp Control		Each shelf independent
Temperature Accuracy	°C	+/- 2.0

Laser Control

Laser Drive Current			
Range	A	0 - 10	0 - 20
Setpoint Accuracy	A	± 0.05	± 0.05
Stability[1]	of FS	±500 ppm	± 1000 ppm
Compliance Voltage	V	2.5	2.5
Control Modes		ACC, LIV	
Transients			
Operational		<40 mA	
1kV EFT, Surge		<80 mA	

Measurement Functions

Laser Voltage		
Range	V	0 - 5
Accuracy	V	+/- 0.05
Optical Power		
Detector Types		Si based integrating sphere
Wavelength Range	nm	800 - 1000
Measurement Range	W	0 - 20
Accuracy		+/- 20%
Stability[1]		+/- 0.1% of Full Scale

Laser Test Fixtures

Devices per Fixture	
10A per device	16
20A per device	8
Fixtures per Shelf	4
Device Types Supported	C-Block, CDC, Customer Proprietary

System Control Computer and Supervisory Software

Computer	Dell® Optiplex, > 2.7 GHz Pentium® Dual Core processor, 2.0 GB ram, 160 GB hard drive, CD-ROM, Ethernet interface,
Display	17" Dell® Ultrasharp flat panel
Power Requirements, Computer	115/230VAC, 50/60 Hz, single phase, 6/3A autosensing
Battery Backup	> 5 minutes
Operating System	Microsoft Windows XP Pro®
System Control Software	ReliaTest™
Source Code	C# source code provided with system

General

Size (HxWxD) cm	190 x 80 x 80
Power Requirements	200-240 VAC, 50/60 Hz, three phase; 350-420 VAC, 50/60 Hz, three phase
Facility Water Requirement	>6 GPM at 10°C to 25°C
Facility Air Requirement	100 - 150 PSI

Notes

1. Stability measured over 1000 hours.
2. Temperature control range depends on total power dissipated on the fixture and facility water temperature.

ILX Lightwave
Laser Diode Instrumentation & Test Systems
www.ilxlightwave.com
800.459.9459 406.556.2481 sales@ilxlightwave.com 31950 E. Frontage Rd. Bozeman, MT 59715

Rev 03. 092210