LST 4100

Laser Spectrum Tester

The LST 4100 is an optical laser parameter tester targeting on-wafer applications where speed and accuracy are at a premium. Laser power, wavelength and SMSR can be repeatably measured at 100 Hz while laser current and temperature are varied.

The LST 4100 leverages Luna's patented fiber Fabry-Perot filter and wavelength reference technology, paired with on-board high-performance DSP and real-time FPGA processing from our established HYPERION sensing platform, to execute our unique digital signal processing technology. All these technologies enable the LST 4100 to measure full-laser spectrum data, detect laser peak and side modes, and report these parameters every 10 msec.

The LST 4100, the industry's fastest laser tester, facilitates high volume laser qualification testing. This speed makes the LST4100 a low-cost alternative to traditional optical spectrum analyzers. The LST 4100 operates from 1260 to 1360 nm for many emerging Si Photonic laser applications including LiDAR and CWDM data center laser transmitters.

KEY FEATURES

- 10 msec measurement of laser parameters
- Designed for on-wafer test of laser die PIC
- Scan range: 1260 - 1360 nm
- Measures SMSR to <35db at 0.2 nm from laser mode

APPLICATIONS

Optical Characterization of:

- On-wafer test of laser die PICs
- Repeat measurements over various laser currents and temperatures
- Determine 'good' lasers before dicing and packaging

Accurate Measurement of:

- Laser power
- Laser wavelength
- SMSR

Fastest tester of power, wavelength and SMSR for on-wafer testing of PIC lasers

LASER MEASUREMENTS

- Laser power and wavelength
- Side-modes: SMSR (power), separation from laser

PERFORMANCE

PARAMETER	SPECIFICATION	UNITS
Measurements		
Sweep speed	10	msec
Operating wavelength	1260 – 1360	nm
SMSR mask	-35 dB from 0.2 nm to 1.5 nm from main laser mode	
Scan range	4.5 < Δλ < 5.7	nm
Maximum laser input power	10	dBm
Wavelength accuracy	0.1	nm
Wavelength resolution	0.01	nm
Wavelength repeatability	± 0.023	nm
Wavelength calibration	internal	
Power accuracy	± 1	dB
Power resolution	± 0.1	dB
Power repeatability	± 0.5	dB
Optical noise floor	-60	dBm
Dynamic range	>65	dB
Return loss	>25	dB
Interface	TCP-IP, supports up to 8 instruments	
Physical		
Optical connector type	LC/APC	-
Compatible fibers	SMF or PMF	-
Operating temperature	10 to 50-20 to 60 C, < 80%RH non-condensing	°C
Storage temperature	-30 to 70 C, < 95%RH non-condensing to 60	°C
Dimensions (WxDxH)/weight	206 x 274 x 79/3.0	mm/kg

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*Specifications subject to change without notice.