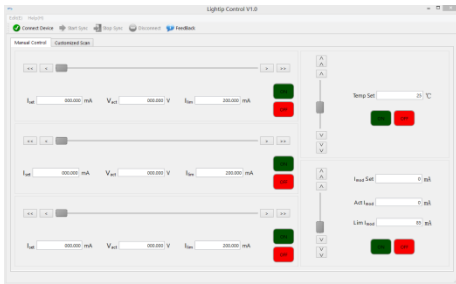
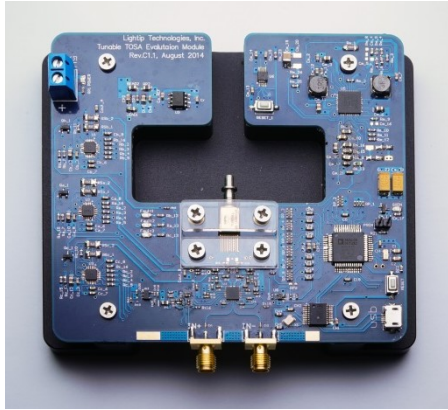


Tunable Laser Evaluation Circuit Board

TLDX-B



Key Features

- **Wavelength control electronics**
- **High-speed modulation driver (optional)**
- **USB interface**
- **Mounting base and heatsink for tunable TOSA**
- **PC based control software**

Applications

- **TOSA evaluation**
- **Tunable laser source**
- **Test and measurement**
- **Other laboratory applications**

Widely wavelength tunable semiconductor lasers are key components for next-generation optical networks. Conventional tunable lasers require complex fabrication processes such as non-uniform gratings and multiple epitaxial growths, and need multiple electrodes with complex control algorithms for wavelength tuning. As the dense wavelength division multiplexing (DWDM) technology extends towards access and data center networks, the cost reduction and operational simplicity become more and more important.

Lightip has developed a simple and compact tunable laser based on patented proprietary technologies. It consists of a half-wave coupled V-cavity laser with only three electrodes: one for gain and direct modulation, one for channel selection corresponding to the ITU grid, and the third for fine tuning when needed. The laser structure does not involve any grating or epitaxial regrowth, and has a size of only about $500\mu\text{m} \times 300\mu\text{m}$. The advantages of compactness, fabrication simplicity and easy wavelength control offer cost-effective tunable laser solutions for many applications in access and data center networks, and beyond.

The tunable laser evaluation circuit board is designed for evaluation of tunable laser TOSA. It includes 3 current controls for the laser wavelength and output power, a TEC controller and an USB interface for PC communication. A high speed modulation driver is also available. The on-board mount provides easy access for TOSA mounting and evaluation. The evaluation module requires a single 5V DC power supply.

In combination with a tunable TOSA, this device can also be used as a tunable laser source for test and measurement, and other laboratory applications.

Specifications

Parameters	Symbol	Min.	Typ.	Max.	Unit
Power Supply					
Supply Voltage	V_{cc}	4.9	5	5.2	V
Input Current	I_{cc}	0.08	0.3	1	A
Power Supply Noise(DC-20MHz)				100	mV
Bias Control Characteristics					
Bias Current Range	I_{bias}	0		200	mA
Bias Current Resolution			0.05		mA
Bias Current Stability	ΔI_{LD}	0.2		0.1	mA
RF Modulation Characteristics					
Input Modulation Signal Voltage (peak to peak)	V_{pp}	0.2	0.5	0.7	V
Temperature Control Characteristics					
Temperature Control Range		0		70	°C
Temperature Stability			0.05		°C
Mechanical Characteristics					
Dimensions		110 × 100 × 30			mm
Weight				500	g

* Product specifications are subject to change without notice.