

10GHz Tunable Picosecond Laser

Wavelength Tunable, Hybrid Mode-Locked Laser Diode

MLLD-100

Key Features

- Short pulse width of 2 picosecond
- Wavelength tunable over the entire C-band
- Synchronizable to external 10GHz clock
- Turn-key operation
- No warm-up time



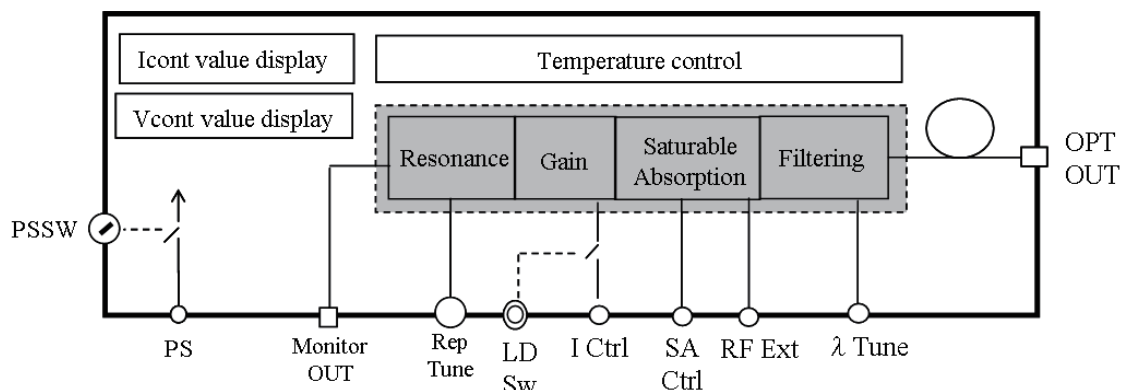
The MLLD-100 is a tunable picosecond pulsed laser source based on a hybrid mode-locked semiconductor laser diode technology. The laser delivers a short pulse width of 2 ps with wavelength that covers the entire C-band window from 1530 to 1565 nm. The repetition pulse base rate is 10 GHz, making it a suitable pulse source for high-speed optical communication applications.

The pulse repetition rate can be adjusted in the vicinity of 10 GHz to match the required transmission bit-rate. Repetition rate locking to an external RF is possible for ultra stable operation.

Applications

- 10 Gb/s, 40 Gb/s, 160Gb/s and 320Gb/s RZ pulse source
- High-speed OTDM demultiplexing applications
- Frequency comb generation
- Picosecond pump-probe studies
- Laser metrology for distance, delay and dispersion measurement

Functional Diagram



Specifications

Category	Parameter	Specification			Unit
		Min.	Typ.	Max.	
Optical	Output Power	-10			dBm
	Wavelength	1530		1570	nm
	Spectral width		2		nm
	Pulse width		2		ps
	Repetition rate	9.95		10.00	GHz
	Timing jitter ¹		0.5		ps
Connector	Optical output	FC/SPC			
Electrical	External RF input power	18			dBm
	Power consumption	20			W
Ambient	Operating Temperature	+15 to +35			
	Humidity (non-condensing)	<80% RH			
Physical	Dimensions (W x H x D)	230 x 88 x 320 mm			
	Weight	<8 kg			

Note: The specifications are subjected to change without prior notice. Please contact Alnair Labs for more details.

1. Laser locked to external RF synthesizer.

Typical Optical Performance

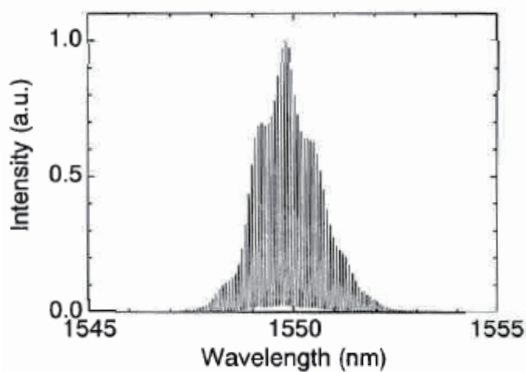


Fig. 1 Pulse spectrum at 1550nm.

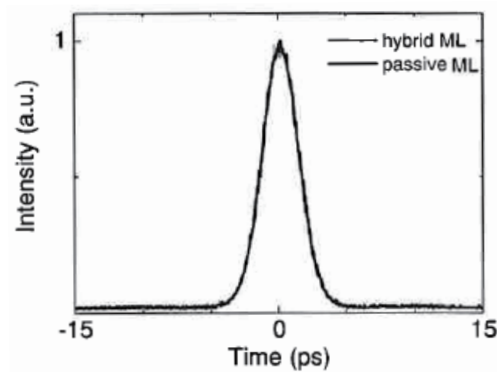


Fig. 2 Pulse autocorrelation waveform.

Application Examples

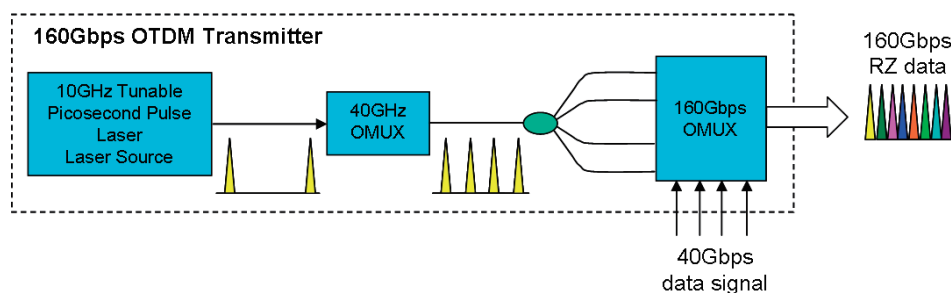


Fig. 3 160GHz OTDM transmitter.

Ordering Information

MLLD-100