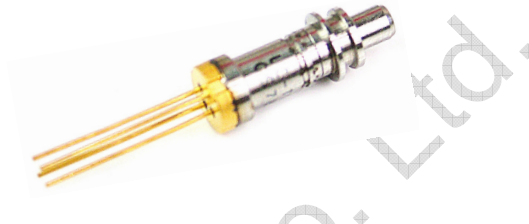


## LC-TOSA1XXDXXXX

**Technical Specification of 1270nm~1610nm MQW-DFB Laser Diode Module:  
(Transmitter Optical Sub-assembly)for 155Mb/s and 2.5Gb/s transmission**

### Features

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB laser Diode
- ◆ Low threshold, high slope efficiency and high output power LD
- ◆ Maximum Soldering Temperature /Time:260□/10s
- ◆ Operating Case temperature: 0□ to +70□
- ◆ RoHS Compliant Products Available



### Applications

- ◆ Optical Transmitter of Data Signal
- ◆ Optical Transmitter of Analog Signal
- ◆ Microwave Transmission System
- ◆ Test Equipments

### General

LC-TOSA1XXDXXXX 1270nm~1610nm InGaAsP/InP CWDM MQW-DFB laser diode modules designed for fiber optic communication systems. These modules are transmitter optical sub-assembly with low threshold current and high performance at high temperature, data rates from 155 Mbps to 2.5Gbps.

A laser diode is mounted into a Ø5.6mm coaxial package integrated with an InGaAs monitor PD, A single stage isolator and a split sleeve for the optical connector with Ø1.25mm ferrule.

### Ordering information (Standard version <sup>\*Note1</sup>)

Part No.	Data Rate	Pin Type	Power	$\lambda$ <sup>*Note1</sup> (nm)	Isolator
LC-TOSA11ADH27GMLA	1.25Gbps	LD-Pin-1	H	1270	Single Stage
LC-TOSA11BDM33G2MLA	1.25Gbps	LD-Pin-2	M	1330	Dual Stage
LC-TOSA12ADH39GMLA	2.5Gbps	LD-Pin-1	H	1390	Single Stage
LC-TOSA12BDM44GMLA	2.5Gbps	LD-Pin-2	M	1440	Single Stage
LC-TOSA12ADH49GMLA	2.5Gbps	LD-Pin-1	H	1490	Single Stage
LC-TOSA12BDH55G2MLA	2.5Gbps	LD-Pin-2	H	1550	Dual Stage
LC-TOSA12BDH61GMLA	2.5Gbps	LD-Pin-2	H	1610	Single Stage

\*Note1: For more ordering information, please refer the nomenclature and contact EPOTOLINK sales.

\*Note2: For the detailed CWDM wavelength, please refer the following table.

## Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	□
Operating case temperature	Top	0~+70	□
Forward current (LD)	IFD	150	mA
Reverse voltage (LD)	VrL	2	V
Reverse voltage (PD)	VrP	20	V
Reverse current (PD)	IrP	2	mA
Soldering temperature (<10s)	Stemp	260	□

## Electrical and optical characteristics

(Pf=1.5mW, SMF(9.5/125μm), Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold current	Ith	CW	—	8	15	mA
Fiber Coupling Power	Pf	CW, If=Ith+20mA	1	1.5	2.8	mW
Operating voltage	Vf	CW, Tc=0~+70	—	1.2	1.6	V
Slope Efficiency	Se	CW, Average(Ith to Ith+20mA)	0.05		0.14	mW/mA
Peak wavelength	λp	CW	(*3)			nm
Wavelength Temperature Coeff	—	CW, Tc=0~+70°C		0.1		nm/□
Side mode suppression ratio	SSR	CW, Tc=0~+70	35	40		dB
Rise time	tr	Ib=Ith, 20-80%, Tc=0~+70	—		0.05	ns
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C	—	0.15	0.05	ns
Tracking error	ΔPf	I <sub>m</sub> hold(@Pf=0.16mW(25°C)) CW, Tc=0~+70	-1.5	—	1.5	dB
Monitor current	I <sub>m</sub>	CW, VrP=5V, Tc=0~+70	100	500	900	uA
Monitor dark current	I <sub>d</sub>	VrP=5V	—	—	10	nA
Monitor capacitance	C	VrP=5V, f=1MHz	—	10	20	pF
Connector repeatability	—		-1	—	1	dB
Optical Isolation	—	Single Stage	30			dB
	—	Dual Stage	40			



F	Isolator	N=None		G= Single Stage		G2=Dual Stage	
G	Wavelength Spec	A=-3 / +3 nm	B= -2 / +2 nm	C= -3 / +1 nm	D= -2 / +1 nm		

## Precaution

- (1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

## Obtaining Document

You can visit our website:

<http://www.eoptolink.com>

Or contact Eoptolink Technology Inc., Ltd. listed at the end of the documentation to get the latest documentation.

## Revision History

Version	Initiated	Reviewed	Approved	Release Date
Va-4	Zore.Zhao	Kelly.Cao		2009-12-26

## Notice:

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