

LC-TOSA 2.5G 1270nm~1610nm MQW-DFB CWDM Laser Diode Module

OSML-TOSAXXXDXXX

Features:

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



Applications:

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

General:

OSML-TOSA1XXFXX3 Series are 1550nm InGaAsP/InP 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, ideally suitable for short reach applications, data rates from 155M to 2.5G.have an isolator integrated inside.

A laser diode is mounted into a $\phi 5.6\text{mm}$ coaxial package integrated with an InGaAs monitor PD, a single -mode fiber-stub and a split sleeve for the optical connector with $\phi 1.25\text{mm}$ ferrule. And we also can provide tow connector types of fiber-stub cover. The one is insulated, related PN is OSML-TOSA2XXXXX. The other is not insulated, related PN is OSML-TOSA1XXXXX.

Ordering Information: (Standard version ^{*Note1})

Part No.	Connector Type	Data Rate	Pin Type	Power	λ ^{*Note2} (nm)	Isolator
OSML-TOSA21BD1533G2	2	1.25G	LD-Pin-2	15	1330	Dual Stage
OSML-TOSA22BD2544G	2	2.5G	LD-Pin-2	25	1440	Single Stage
OSML-TOSA22BD2555G2	2	2.5G	LD-Pin-2	25	1550	Dual Stage
OSML-TOSA22BD1561G	2	2.5G	LD-Pin-2	15	1610	Single Stage

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

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

Absolute Maximum Ratings:

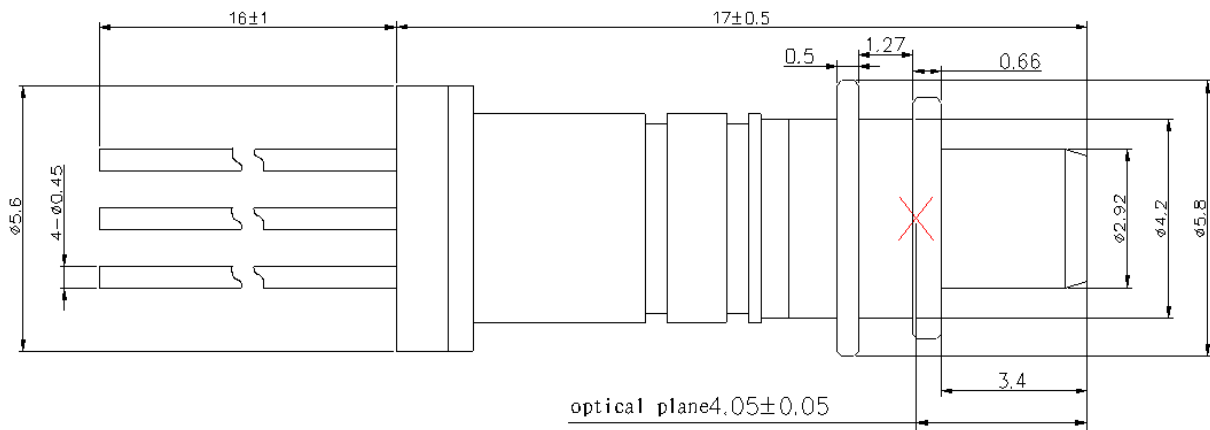
Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	-40~+85	°C
Operating Case Temperature	Top	0~+70	°C
Forward Current (LD)	IFD	150	mA
Reverse Voltage (LD)	VrL	2	V
Reverse Voltage (PD)	VrP	20	V
Reverse Current (PD)	IrP	2	mA
Soldering Temperature (<10s)	Stemp	260	°C

Electrical and Optical Characteristics:

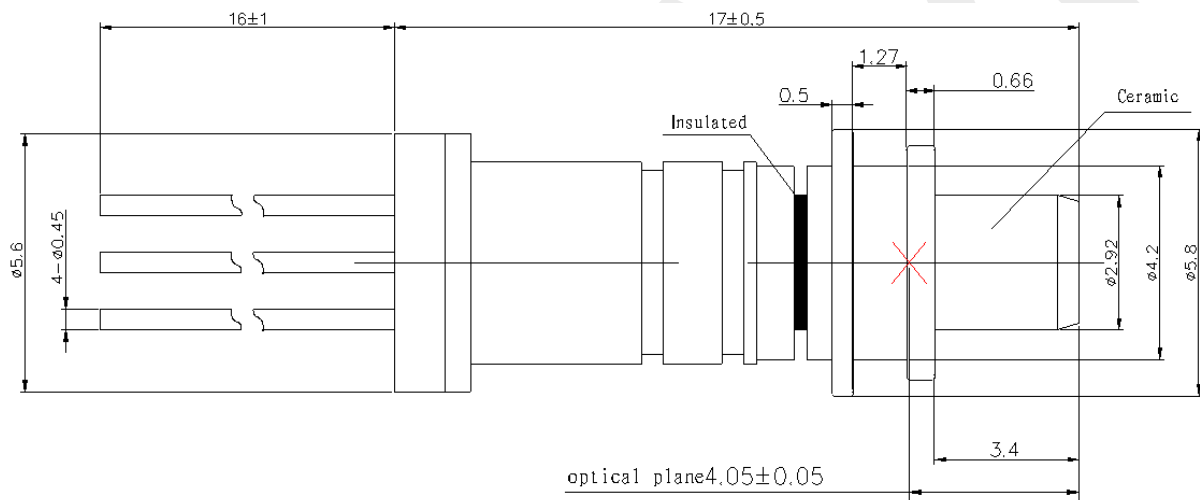
(Pf=1.5mW, SMF(9.5/125μm), Tc=+25°C, unless otherwise noted.)

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	2.5	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/°C
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	Im hold(@Pf=0.16mW(25°C) CW, Tc=0~+70	-1.5	—	1.5	dB
Monitor Current	Im	CW, VrP=5V, Tc=0~+70	100	500	900	uA
Monitor Dark Current	Id	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			

TOSA Package Series: *Note3



LC-TOSA1

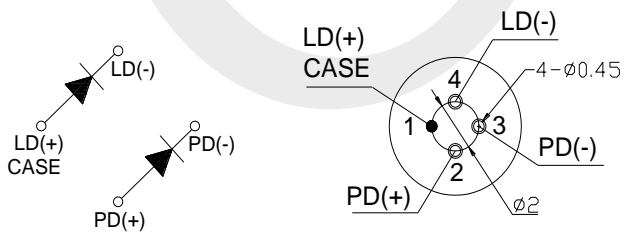


LC-TOSA2

*Note3: Laser mark can be customized.

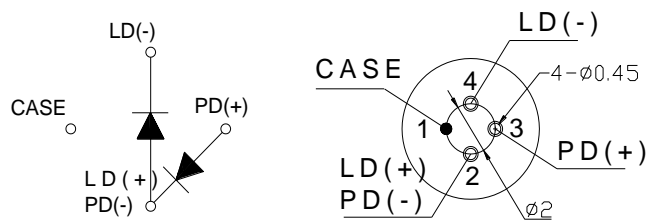
Pin Assignment:

TYPE: 1



LD-pin-1 / TYPE: C

TYPE: 2



LD-pin-2 / TYPE: B

Nomenclature:

OSML-TOSA □ □ □ □ □ □ □ □
 A B C D E F G H

No	Parameter	Detailed Description					
A	Connector Type	2=Insulated					
B	Data Rate	1=1.25G			2=2.5G		
C	Pin Type	A=LD-pin-1			B= LD-pin-2		
D	LD Type	D=DFB LD					
E	Power	08=0.5-0.1mW		15=1.1-1.6mW		25=1.61-2.5mW	
F	Wavelength	27=1270	29=1290	31=1310	33=1330	35=1350	37=1370
		39=1390	41=1410	43=1430	45=1450	47=1470	49=1490
		51=1510	53=1530	55=1550	57=1570	59=1590	61=1610
G	Isolator	Blank=None		G= Single Stage		G2=Dual Stage	
H	Fiber Type	Blank=SM			M=MM		

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.

Notice:

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