LC-TOSA 2.5G 1550nm MQW-FP Laser Diode

HEL-TOSAXXXFX5

Features:

- Coaxial Package
- InGaAsP/InP MQW-FP Laser Diode
- Low threshold, high slope efficiency and high output power LD
- Maximum Soldering Temperature /Time:260℃/10s
- Operating Case Temperature: -40℃ to +85℃
- RoHS Compliant Products Available

Applications:

- Optical Transmitter of Data Signal
- Optical Transmitter of Analog Signal
- Test Equipments

General:

HEL-TOSA1XXFX5 Series are 1550nm InGaAsP/InP MQW-FP 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 1.25G to 2.5G.

A laser diode is mounted into a Ø5.6mm coaxial package integrated with an InGaAs monitor PD, a single -mode fiber-stub and a split sleeve for the optical connector with Ø1.25mm ferrule. And we also can provide tow connector types of fiber-stub cover. The one is ceramic insulated, related PN is HEL-TOSA2XXXXX. The other is not insulated, related PN is HEL-TOSA1XXXXX. However, the optical connector with Ø2.92mm is ceramic and fiber-stub cover is insulated, related PN is HEL-TOSA3XXXXX.

Ordering Information: (Standard version *Note1)

Part No.	Connector Type	Pin Type	LD Type	Power	Data Rate
HEL-TOSA21BF045	2	LD-Pin-2	FP	04	1.25G
HEL-TOSA22BF045	2	LD-Pin-2	FP	04	2.5G

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

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Absolute Maximum Ratings: *Note2

Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	-40~+100	℃
Operating Case Temperature	Top	-40~+85	℃
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	℃

*Note2: Exceeding any one of these values may destroy the device immediately.

Electrical and Optical Characteristics:

(Pf=0.3mW, 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	0.1	0.3	0.6	mW
Operating Voltage	Vf	CW, Tc=-40~+85℃	—	1.2	1.6	V
Slope Efficiency	Se	CW, Average (Ith to Ith+20mA)	—	—	0.03	mW/mA
Peak Wavelength	λp	CW	1520	1550	1580	nm
		CW, Tc=-40~+85°C	1490		1585	
Spectral Width	Δλ	CW, 20dB down,	—	1.5	3	nm
Rise Time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C	—		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=-40~+85°C	-1.5	—	1.5	dB
Monitor Current	Im	CW, VrP=5V, Tc=-40~+85°C	200		1000	uA
Monitor Dark Current	Id	VrP=5V	—	—	10	nA
Monitor Capacitance	C	VrP=5V, f=1MHz	—	—	20	pF
Connector Repeatability	—		-1	—	1	dB

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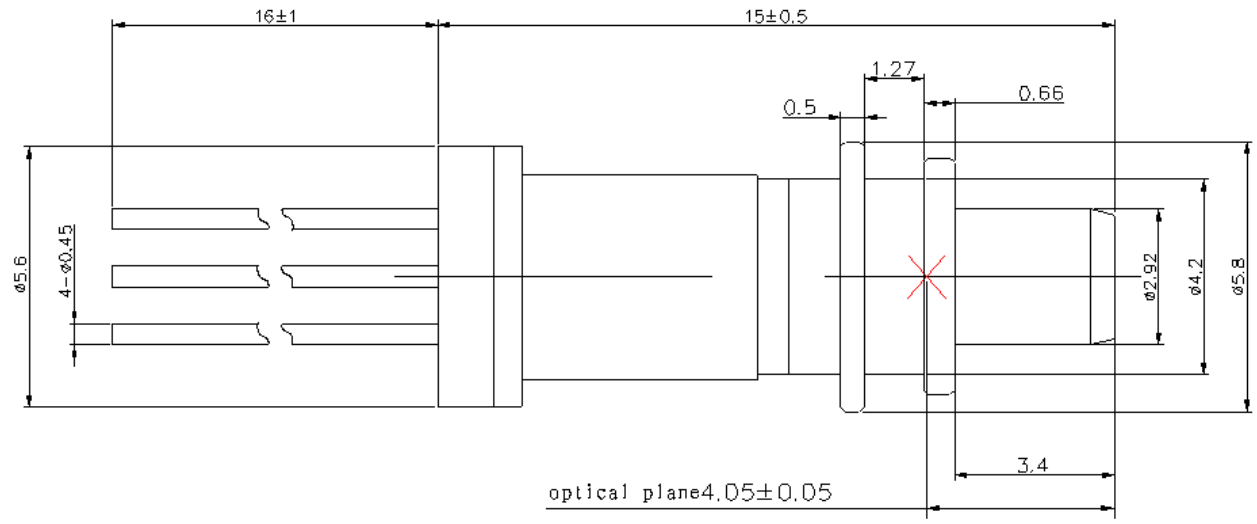
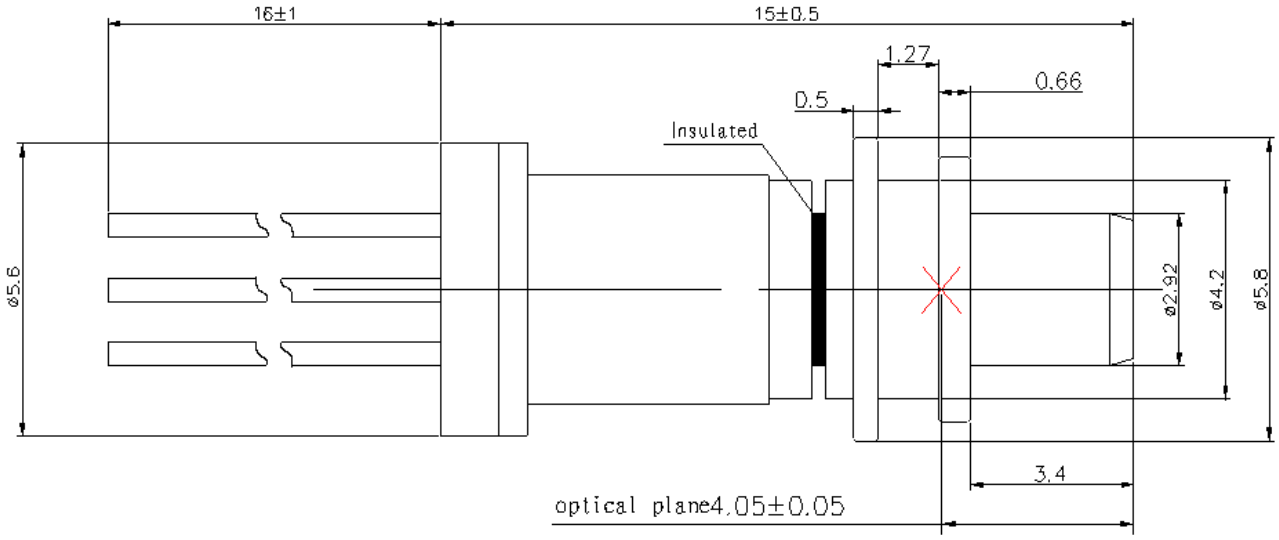
TOSA Package Series: *Note3



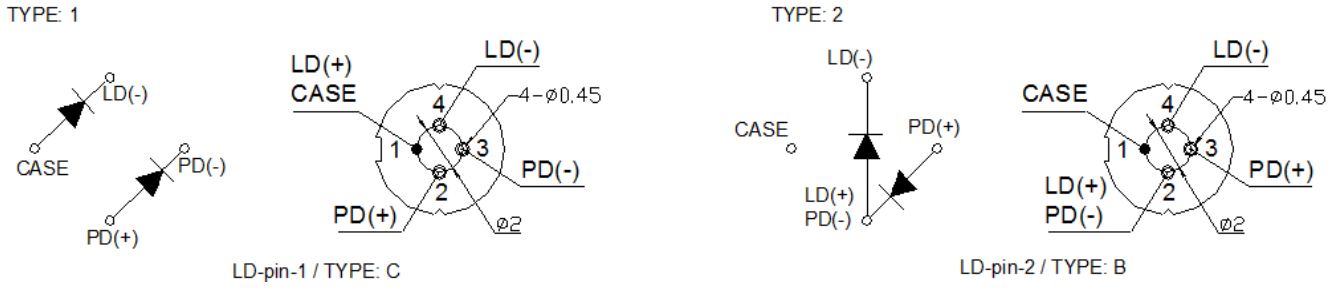
LC-TOSA1



LC-TOSA2

*Note3: Laser mark can be customized.

Pin Assignment:



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Nomenclature:

HEL-TOSA □ □ □ □ □ □ □

A B C D E F G

Order	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	F=FP LD	
E	Power	04=0.1-0.3mW	08=0.31-0.6mW
F	Wavelength	5=1550nm	
G	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:

HighEasy reserves the right to make changes or discontinue any product or service identified in this publication, without notice, in order to improve design and/or performance. Applications that are described herein for any of the products are for illustrative purposes only. HighEasy makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

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