



## TECHNICAL SPECIFICATIONS

### 1550 nm 2.5Gbps High Power DFB Laser Diode Module

#### LDP-2D1550-25 Series



#### Revision Record

Document No.	Date of Issue	Description	Incorporated by	Checked by
LDP-2D1550-25	08/08/2006	Initial Issue	R.T.	E.C.
LDP-2D1550-25	09/08/2006	Add contact info and picture	R.T.	E.C.

## Description

LDP-2D1550-25 Series are 1550 nm InGaAsP/InP MQW-DFB laser diode modules for use in un-cooled applications with data rate up to 2.5Gbps. The laser diode is mounted into a coaxial package integrated with an InGaAs monitor PD. They are available in either fiber pigtail with specified connectors or in a variety of receptacle types. The laser diode modules have low threshold current, high output power, and wide operating temperature range.

## Features

- Low threshold current
- High output power
- Un-cooled MQW DFB laser diode
- Wide operating temperature range
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Single frequency operation with high SMSR
- Available in either fiber pigtail with specified connectors or in a variety of receptacle types
- Supports intermediate and long reach transmission with data rate up to 2.5 Gbps

## Applications

- SONET/SDH OC-3/STM-1, OC-12/STM-4, OC-48/STM-16
- Gigabit Ethernet and Optical Data Link
- Subscriber Loops and CATV Applications

## Technical Specifications

### 1. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Storage relative humidity	RH	85	%
Fiber output power	Pf	4	mW
Forward current (LD)	IfL	150	mA
Reverse voltage (LD)	VrL	2	V
Reverse voltage (PD)	VrP	20	V
Forward current (PD)	IrP	2	mA
Soldering temperature (<10s)	Stemp	260	°C

### 2. Electrical and optical characteristics (Tc=+25 °C)

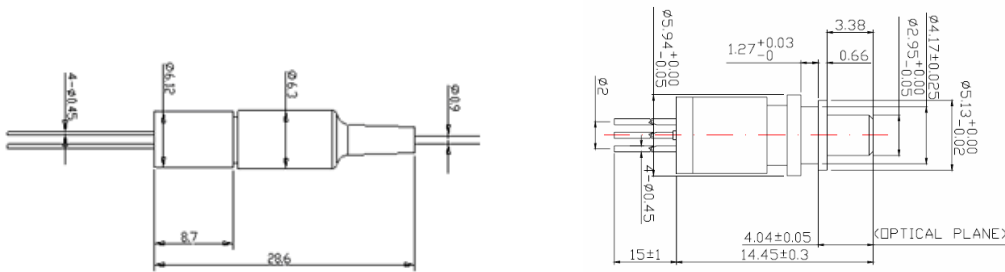
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	7	15	mA
		CW, Tc=-40~+85 °C	—	—	50	
Optical output power	Pf	CW, If=Ith+20mA	2.0	—	—	mW
Operating voltage	Vf	CW, If=Ith+20mA	—	1.1	1.5	V
Slope efficiency	Se	CW, If=Ith+20mA	0.12	0.15	—	mW/mA
Central wavelength	$\lambda_p$	CW, If=Ith+20mA, Tc=-40~+85 °C	1530	1550	1570	nm

Spectral width	$\Delta\lambda$	CW, If=Ith+20mA	—	—	1	nm
Side-mode suppression ratio	SSR	CW, If=Ith+20mA, Tc=-40~+85 °C	30	40	—	dB
Tracking error	$\Delta Pf$	CW, Im hold @pf=0.4mW, Tc=-40~+85 °C	-1.0	—	1.0	dB
Rise time	tr	Ib=Ith, 20-80%	—	80	120	ps
Fall time	tf	Ib=Ith, 80-20%	—	80	120	ps
Monitor current	Im	CW, If=Ith+20mA	50	300	2000	$\mu A$
Monitor dark current	Id	Vrp=5V	—	—	100	nA
Monitor capacitance	C	Vrp=5V, f=1MHz	—	10	20	pF
Isolation	ISO	Package with single stage isolator	30	—	—	dB

### 3. Fiber pigtail specification

Parameter	Min	Typ.	Max.	Unit
Type	Single Mode			—
Mode field diameter@1310nm	8.5	9.5	10.5	$\mu m$
Cladding diameter	122	125	128	$\mu m$
Outer jacket diameter	0.8	0.9	1.0	mm
Bending radius	30	—	—	mm

### 4. Package dimension



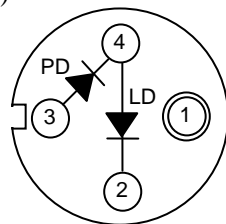
(Unit: mm)

Tolerance:  $\pm 0.1$ mm, unless otherwise noted.

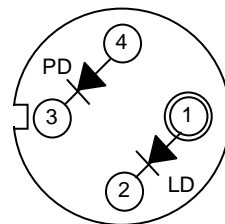
### 5. Pin assignment

Pin No.	Type C	Type A
1	Case	LD Anode (Case)
2	LD Cathode	LD Cathode
3	PD Anode	PD Cathode
4	LD Anode/PD Cathode	PD Anode

(Bottom Views)



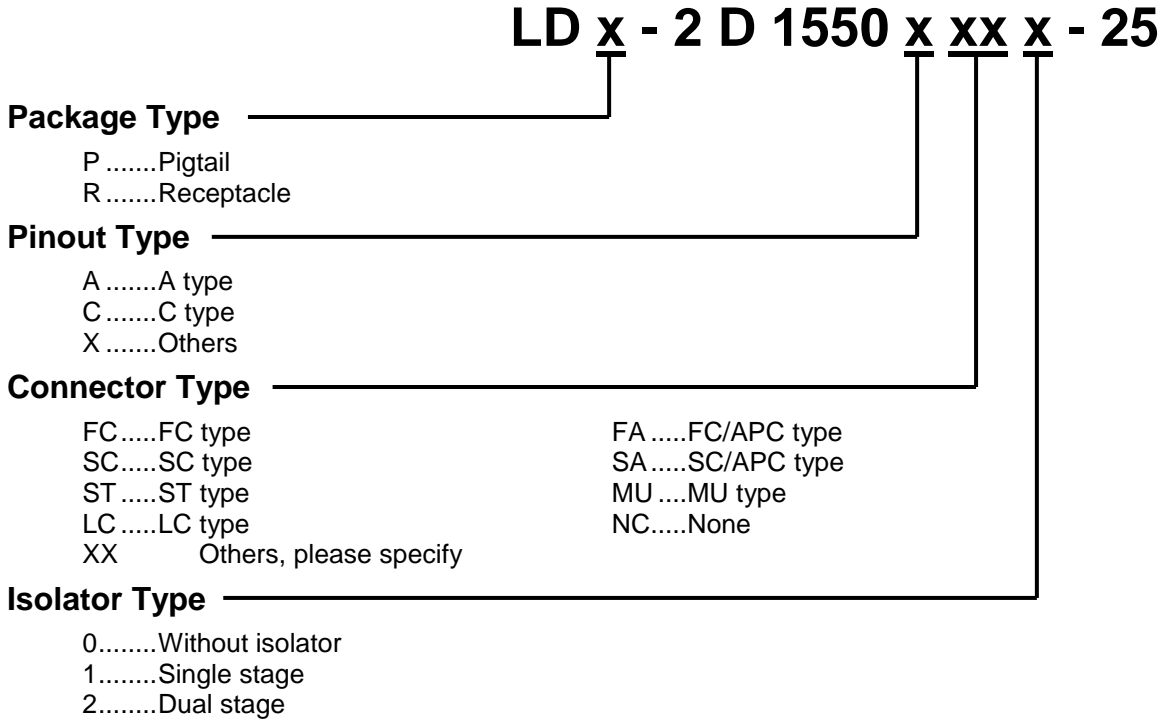
Type C



Type A

**6. Ordering information:**

**Example: LDP-2D1550CSC0-25**



**Sennseek Inc.**

Phone: 1-818-266-5679 Fax: 1-423-2387075

2288 Gunbarrel Rd, Suite 111, PMB 165, Chattanooga, TN 37421

Web site: <http://www.sennseek.com> E-mail: [eric@sennseek.com](mailto:eric@sennseek.com)

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