



## TECHNICAL SPECIFICATIONS

### 1310 nm 2.5Gbps FP Laser Diode Module

#### LDP-2F1310-04 Series



#### Revision Record

Document No.	Date of Issue	Description	Incorporated by	Checked by
LDP-2F1310-04	06/01/2006	Initial issue	R.T.	E.C.
LDP-2F1310-04	09/08/2006	Add contact info and picture	R.T.	E.C.

## Description

LDP-2F1310-04 Series are 1310nm InGaAsP/InP MQW-FP laser diode modules for use in un-cooled applications 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
- Un-cooled MQW Fabry-Perot laser diode
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Available in either fiber pigtail with specified connectors or in a variety of receptacle types
- Supports transmission bit 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	1.5	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)

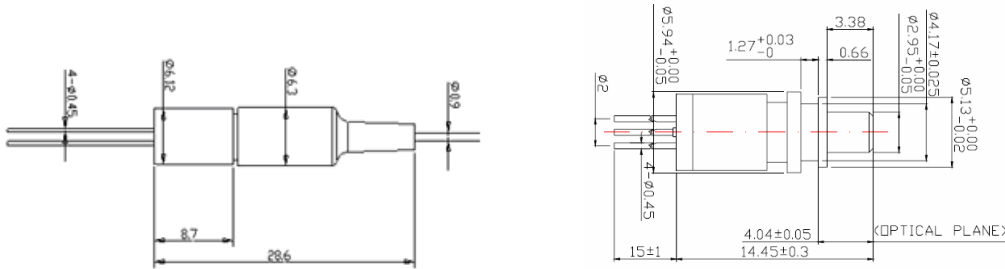
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	5	15	mA
		CW, Tc=-40~+85 °C	—	—	40	
Optical output power	Pf	CW, If=Ith+20mA	0.4	—	1	mW
Operating voltage	Vf	CW, If=Ith+20mA	—	1.1	1.5	V
Slope efficiency	Se	CW, average	0.01	—	—	mW/mA
Central wavelength	$\lambda_p$	CW, If=Ith+20mA	1290	1310	1330	nm
Spectral width	$\Delta\lambda$	CW, If=Ith+20mA	—	1.0	2.0	nm
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%	—	—	0.15	ns
Fall time	tf	Ib=Ith, 80-20%	—	—	0.15	ns
Monitor current	Im	CW, If=Ith+20mA, Vrp=5V	100	—	900	μA
Monitor dark current	Id	Vrp=5V	—	—	0.1	μA
Monitor capacitance	C	Vrp=5V, f=1MHz	—	10	20	pF

### 3. Fiber pigtail specification

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

### 4. Package dimension



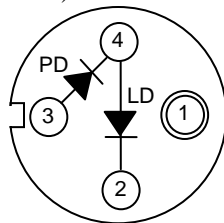
(Unit: mm)

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

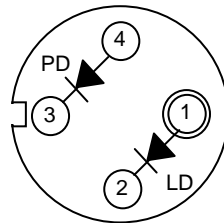
### 5. Pin assignment

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)



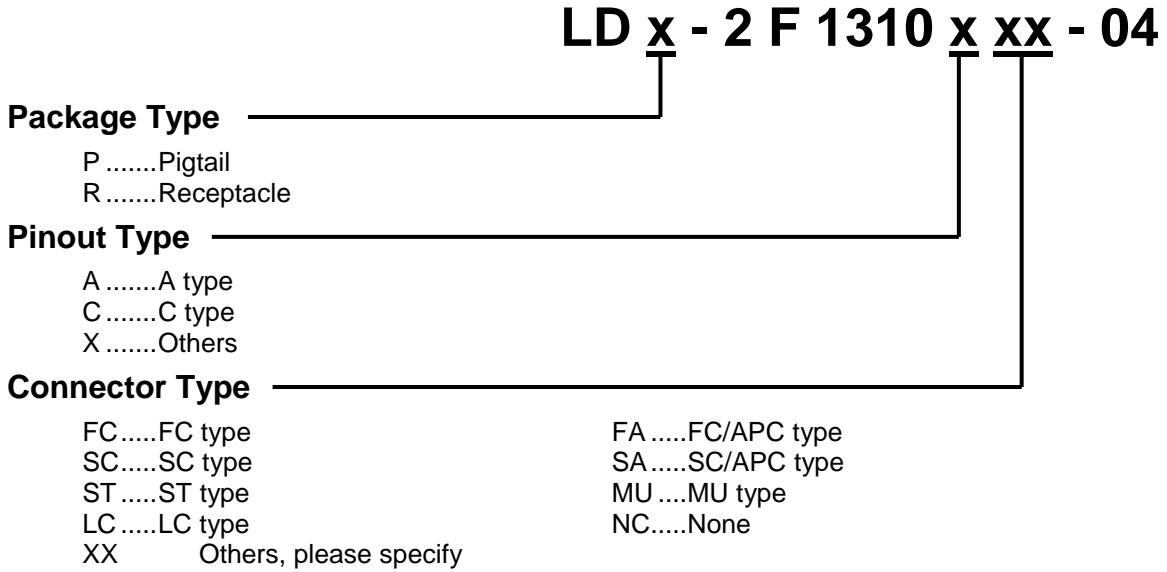
Type C



Type A

**6. Ordering information:**

**Example: LDP-2F1310CSC-04**



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