



TECHNICAL SPECIFICATIONS

1310 nm 4Gbps FP Laser Diode Module

LDP-4F1310-10 Series



Revision Record

Document No.	Date of Issue	Description	Incorporated by	Checked by
LDP-4F1310-10	06/01/2006	Initial issue	R.T.	E.C.
LDP-4F1310-10	09/08/2006	Add contact info and picture	R.T.	E.C.

Description

LDP-4F1310-10 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 4 Gbps

Applications

- SONET/SDH
- Gigabit Ethernet and Optical Data Link
- Fiber Channel

Technical Specifications

1. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+100	°C
Operating case temperature	Top	-40~+95	°C
Storage relative humidity	RH	85	%
Fiber output power	Pf	2.5	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)

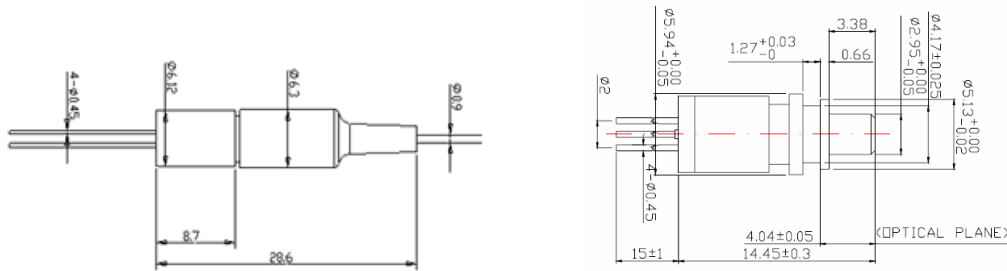
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	4	10	mA
		CW, Tc=-40~+95 °C	—	12	18	
Fiber output power	Pf	CW, If=Ith+30mA	1.0	—	2.0	mW
Operating voltage	Vf	CW, If=Ith+30mA	—	1.1	1.5	V
Slope efficiency	Se	CW, average	0.03	—	—	mW/mA
Central wavelength	λ_p	CW, If=Ith+30mA	1293	1304	1315	nm
Spectral width	$\Delta\lambda$	CW, If=Ith+30mA	—	1.0	2.0	nm
Tracking error	ΔPf	Im hold(@pf=1.0mW(25°C)), CW, Tc=-40~+95 °C	-1.0	—	1.0	dB

Rise time	tr	Ibias=Ith, 20-80%	—	70	80	ps
Fall time	tf	Ibias=Ith, 80-20%	—	70	80	ps
Monitor current	Im	CW, If=Ith+30mA, Vrp=1V	50	—	400	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



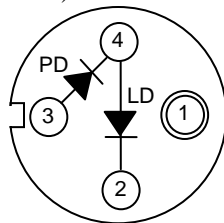
(Unit: mm)

Tolerance: ± 0.1 mm, unless otherwise noted.

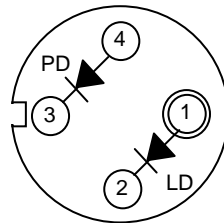
5. Pin assignment

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-4F1310CSC-10

