



TECHNICAL SPECIFICATIONS

**1270 nm to 1610 nm CWDM
2.5Gbps High Power DFB Laser Diode Module**

LDP-2D1610-25 Series



Revision Record

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LDP-2C1610-25	08/08/2007	Initial issue	R.T.	E.C.
LDP-2C1610-25	09/08/2007	Add contact info and picture	R.T.	E.C.

Document No.	LDP-2C1610-25	Page No.	1
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Description

LDP-2C1610-25 Series are 1270nm ~ 1610nm CWDM InGaAsP/InP MQW-DFB 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
- High output power
- Un-cooled MQW DFB laser diode
- Wide operating temperature without active cooling
- 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 transmission data rate up to 2.5 Gbps

Applications

- SONET/SDH OC-3/STM-1, OC-12/STM-4, OC-48/STM-16
- CWDM Systems
- Gigabit Ethernet
- Fiber Channel

Technical Specifications

1. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating temperature	Top	0~+70	°C
Storage relative humidity	RH	85	%
Forward current (LD)	IfL	Ith+40 DC	mA
Reverse voltage (LD)	VrL	2	V
Reverse voltage (PD)	VrP	20	V
Forward current (PD)	IrP	2	mA
Soldering temperature (<10s)	Stemp	240	°C

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	10	20	mA
		CW, Tc=-40~+85 °C	—	—	50	
Optical output power	Pf	CW, If=Ith+20mA	2.5	—	—	mW
Operating voltage	Vf	CW, If=Ith+20mA	—	1.1	1.8	V
Slope efficiency	Se	CW, If=Ith+20mA	0.12	0.15	—	mW/mA
Central wavelength	λ_c	CW, Pf=2mW	Note 1			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	ΔPf	CW, Im hold @pf=0.4mW, Tc=-40~+85 °C	-1.0	—	1.0	dB
Rise time	tr	Ib=Ith, 20-80%	—	80	150	ps
Fall time	tf	Ib=Ith, 80-20%	—	80	150	ps
Monitor current	Im	CW, If=Ith+20mA	100	500	—	μA
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

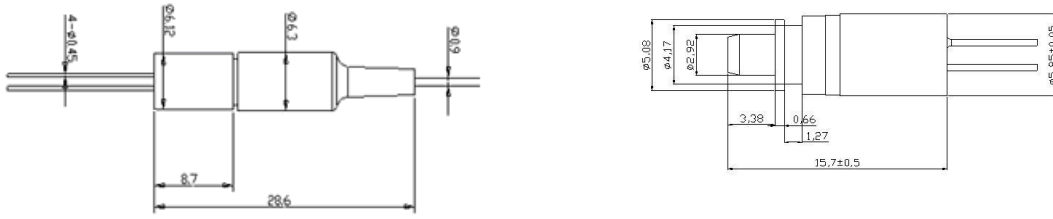
Note 1: Detail of central wavelength specification (Unit: nm)

Channel	Min.	Typ.	Max.	Unit
1270	1267	1270	1273	nm
1290	1287	1290	1293	
1310	1307	1310	1313	
1330	1327	1330	1333	
1350	1347	1350	1353	
1370	1367	1370	1373	
1390 (Optional)	1387	1390	1393	
1410 (Optional)	1407	1410	1413	
1430	1427	1430	1433	
1450	1447	1450	1453	
1470	1467	1470	1473	
1490	1487	1490	1493	
1510	1507	1510	1513	
1530	1527	1530	1533	
1550	1547	1550	1553	
1570	1567	1570	1573	
1590	1587	1590	1593	
1610	1607	1610	1613	

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



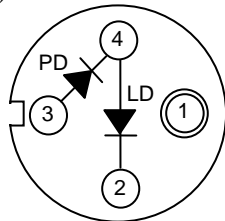
(Unit: mm)

Tolerance: ± 0.1 mm, unless otherwise noted.

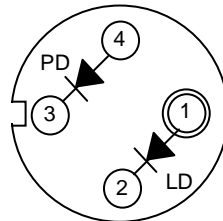
5. Pin assignment

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)



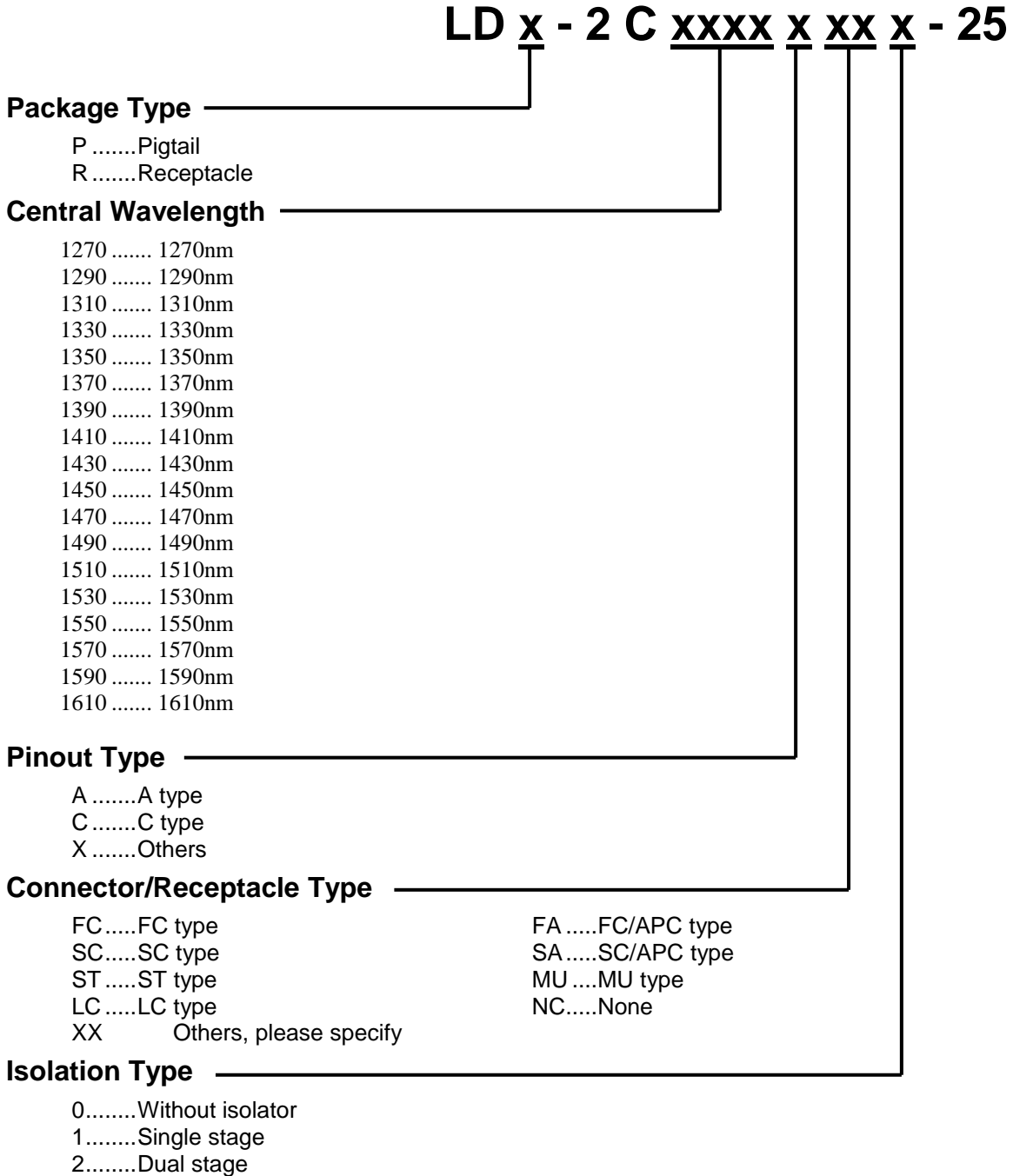
Type C



Type A

6. Ordering information

Example: LDP-2C16100-25



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