



## CxxD-5A-C2G

### 1270nm~1610nm CWDM DFB Laser Diodes in TO-can for 2.5Gbit/s

#### Description

The Lasermate CxxD-5A-C2G is an 18 channel 1270nm-1610nm wavelength, Distributed Feedback (DFB) laser diode, TO-can package, designed for use in CWDM applications.

#### Features

- Uncooled 1270nm~1610nm MQW-DFB laser diode (LD)
- 5mW CW operation at -20 to +85°C
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode (PD)
- With an aspherical lens cap

#### Packaging

- TO-18 with aspherical lens cap of 7.5mm focal distance

#### Product Overview

The following table shows the list of available part numbers and the wavelength of each of the part numbers.

Part Number	Wavelength
C27D-5A-C2G	1270nm
C29D-5A-C2G	1290nm
C31D-5A-C2G	1310nm
C33D-5A-C2G	1330nm
C35D-5A-C2G	1350nm
C37D-5A-C2G	1370nm
C39D-5A-C2G	1390nm
C41D-5A-C2G	1410nm
C43D-5A-C2G	1430nm
C45D-5A-C2G	1450nm
C47D-5A-C2G	1470nm
C49D-5A-C2G	1490nm
C51D-5A-C2G	1510nm
C53D-5A-C2G	1530nm
C55D-5A-C2G	1550nm
C57D-5A-C2G	1570nm
C59D-5A-C2G	1590nm
C61D-5A-C2G	1610nm



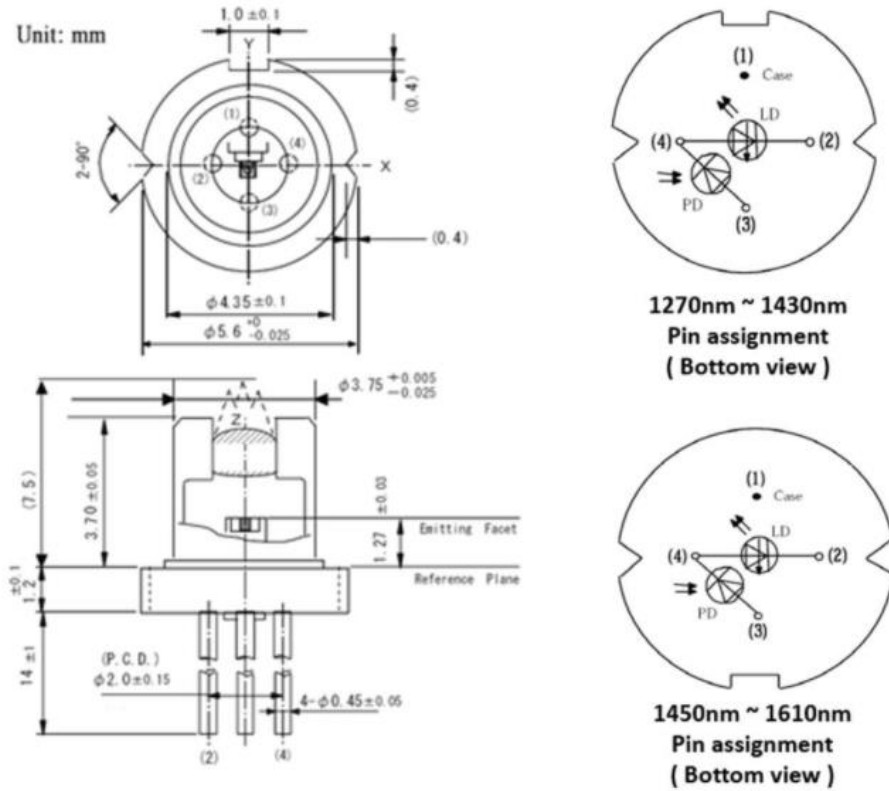
## Specifications

Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Storage temperature	Tstg	-40 to +95	°C	
Operating case temperature	Top	-20 to +85	°C	
Peak optical output power	Po	10	mW	
Forward current (LD)	I <sub>FLD</sub>	150	mA	
Reverse voltage (LD)	V <sub>RLD</sub>	2	V	
Forward current (PD)	I <sub>FPD</sub>	2	mA	
Reverse voltage (PD)	V <sub>RPD</sub>	15	V	
Soldering temperature	Stemp	260	°C	

Electro-Optical Characteristics (CW @ T <sub>c</sub> = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I <sub>th</sub>	-	10	15	mA	CW
		-	-	50		CW, T <sub>c</sub> =-20~85°C
Operating current	I <sub>op</sub>	-	30	40	mA	CW, P <sub>o</sub> =5mW
Operating voltage	V <sub>op</sub>	-	1.1	1.5	V	CW, P <sub>op</sub> , T <sub>c</sub> =-20~85°C
Slope efficiency	η	0.2	-	-	W/A	CW, P <sub>o</sub> =4mW
Peak wavelength*	λ <sub>p</sub>	n-3	n	n+3	nm	CW
Side mode suppression ratio	SMSR	35	-	-	dB	CW, P <sub>o</sub> =5mW, T <sub>c</sub> =-20~85°C
Temperature coefficient of peak wavelength	Δλ <sub>p</sub> / ΔT	-	0.1	0.12	nm/°C	CW, P <sub>o</sub> =4mW, T <sub>c</sub> =-20~85°C
Fiber coupling power	Pf	1.5	-	-	mW	CW, P <sub>o</sub> =5mW, SMF (10/125)
Focal length	Df	7.0	7.5	8.0	nm	CW, P <sub>o</sub> =5mW, SMF (10/125)
Far field (Vertical)	θ <sub>v</sub>		31	40	degree	CW, P <sub>o</sub> =4mW
Far field (Horizontal)	θ <sub>h</sub>		27	35	degree	CW, P <sub>o</sub> =4mW
Rise time	t <sub>r</sub>	-	80	120	psec	I <sub>b</sub> = I <sub>th</sub> , 20%~80%
Fall time	t <sub>f</sub>	-	100	150	psec	I <sub>b</sub> = I <sub>th</sub> , 20%~80%
PD Monitor current	I <sub>m</sub>	0.1	-	1.0	mA	P <sub>op</sub> , V <sub>RPD</sub> =5V
PD Dark current	I <sub>d</sub>			100	nA	V <sub>RPD</sub> =5V
PD Capacitance	C	-	5	7	pF	V <sub>RPD</sub> =5V, f=1MHz

\* Peak wavelength: n=1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610.

**Pin Assignment and Mechanical Outline (unit: mm)**



**Additional Notes**

- Avoid eye or skin exposure to laser radiations.
- The device is sensitive to electro-static discharge (ESD). The device should be handled with ESD proof tools. To assemble the device on PCB, proper grounding is required to prevent ESD.
- The performance and reliability of the device are not guaranteed when it is operated under strong vibration environment.
- Specifications are subject to change without notice.