

# CWDM DFB Laser Diode Module

## 1. Features

- MQW DFB Laser
- Signal Rate up to 1250Mb/s
- High Output Power
- Coaxial Pigtail Package
- with an internal optical isolator.

## 2. Description

CTC11-313-1\*-\*\* Series products are InGaAsP/InP MQW-DFB laser diode module designed for fiber optic communication systems. These modules are ideally suitable for ~1250MGb/s transmission applications.

A laser diode is mounted into a coaxial package integrated with an InGaAs monitor PD and a single mode fiber pigtail.

## 3. Application

- Telecommunication
- Data Communication

## 4. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Note
Reverse Voltage of LD	VRL		2	V	
Forward Current of PD	IFD		2	mA	
Reverse Voltage of PD	VRD		20	V	
Operating Case Temperature	Tc	-0	+70	°C	
Storage Temperature	Tstg	-0	+70	°C	
Lead Soldering Temperature/Time	Tsld		260/10	°C/S	
connector Reflection	Rf	40		dB	

## 5. Electrical and Optical Characteristics

( Tc=25 °C, unless otherwise specified )

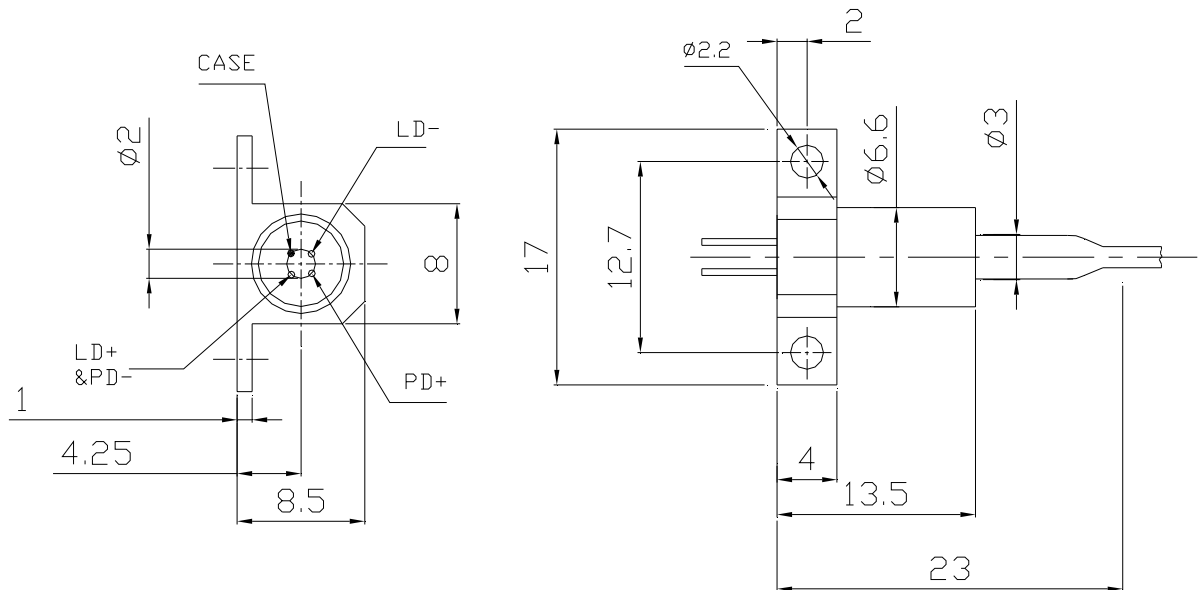
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold current	Ith	CW	-	10	15	mA
			-	-	40	mA
Optical output power	Pf	CW, If= Ith+20mA	1	-	2	mW
Operating current	Iop	CW, Pf=1.0mW	20	30	40	mA
Operating voltage	Vf	CW	-	1.2	1.8	V
Peak wavelength	$\lambda_p$	CW, If=Iop	1467	-	1473	nm
			1487	-	1493	
			1507		1513	
			1527		1533	
			1547		1553	
			1567		1573	
			1587		1593	
			1607		1613	
Spectral Width	$\Delta \lambda$	CW, If=Iop -20dB down	-	-	1.0	nm

Side-mode suppression ratio	SMSR	CW, If=Iop	30	-	-	dB
Tracking error	Er	Im hold (@Pf=1mW(25°C)), Tc=0~+70°C, APC	-1.0	-	1.0	dB
Rise and Fall time	tr ,tf	Ib=Ith,10~90%	-	0.2	0.4	ns.
Monitor current	Im	CW, If=Iop, VRD=5V	100	-	-	μ A
Capacitance (PD)	Ct	Vrd=5V,f=1MHz	-	10	20	pF
Dark current (PD)	Id	Vrd=5V	-	0.1	0.5	μ A

### 6. Precaution

- (1) Radiation emitted by laser devices can be dangerous to the eyes. Avoid eye or skin exposure to direct or scattered radiation.
- (2) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (3) The stress to the fiber pigtail may cause the damage on the performance. The fiber pigtail may snap off by dropping the module.

### 7. Package Dimensions and Pin Description:



### Ordering Information:

Part number	Detailed Description
CTC11-313-1*-47	1470nm CWDM DFB LD
CTC11-313-1*-49	1490nm CWDM DFB LD
CTC11-313-1*-51	1510nm CWDM DFB LD
CTC11-313-1*-53	1530nm CWDM DFB LD
CTC11-313-1*-55	1550nm CWDM DFB LD
CTC11-313-1*-57	1570nm CWDM DFB LD
CTC11-313-1*-59	1590nm CWDM DFB LD
CTC11-313-1*-61	1610nm CWDM DFB LD