Luminent
Bringing Communications to Light™

1300 nm series CWDM DFB Laser Diodes

C-13XX-DFB-E-XX-NT

Features

- Uncooled laser diode with MQW structure
- 5 mW CW operation at 0 to +70°C
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Complies with Bellcore TA-NWT-000983
- Single frequency operation with high SMSR

Packaging

- TO-18 with a flat window cap or a ball lens cap

Absolute Maximum Ratings (T_c=25°C)

Parameter	Symbol	Value	Unit
Optical Output Power	P_o	10(CW)	mW
LD Reverse Voltage	V_{rld}	2	V
PD Reverse Voltage	V_{rpd}	10	V
PD Forward Current	I_{fpd}	2	mA
Operating Temperature	T_{opr}	0 to +70	˚C
Storage Temperature	T_{stg}	-40 to +100	˚C

Optical and Electrical Characteristics (T_c = 25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency						
Flat window cap	SE	0.28	0.36	-	mW/ mA	CW, P_o=5mW
Ball lens cap		0.2	0.28	-		
Threshold Current	I_{th}	-	10	15	mA	CW, P_o=5mW
Optical Output Power	Po	5	-	-	mW	CW, I=I_{th}+20mA
Peak Wavelength*	λ	n-2	n	n+2	nm	See note below
Side mode Suppression	Sr	30	35	-	dB	CW, P_o=5mW (0 to +70˚C)
Forward Voltage	VF	-	1.2	1.5	V	CW, P_o=5mW
Temperature dependence of peak wavelength	Δλp/Δλ	-	0.09	-	nm/˚C	CW, P_o=5mW (0 to +70˚C)
Beam Divergence	Δ //	-	27	-	deg.	CW, P_o=5mW, FWHM
	Δ ⊥	-	32	-		
Rise Time, Fall Time	t_r , t_f	-	-	0.5	ns	I_{bias}=I_{th} , 10-90 %
PD Monitor Current	I_m	100	200	800	μA	CW, P_o=5mW, V_{rpd}=2V
PD Dark Current	I_{DARK}	-	-	0.1	μA	V_{rpd}=5V
PD Capacitance	C_t	-	6	15	pF	V_{rpd}=5V, f=1MHz

Optical and Electrical Characteristics (T_c = 70˚C)

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Threshold Current	I_{th}	-	-	50	mA	CW, P_o=5m
Optical Output Power	P_o	8	-	-	mW	CW, I=I_{th}+60mA

Note: Selected wavelength is available for CWDM application.
* Peak wavelength n=1274.6nm,1299.1nm,1323.6nm,1348.1nm

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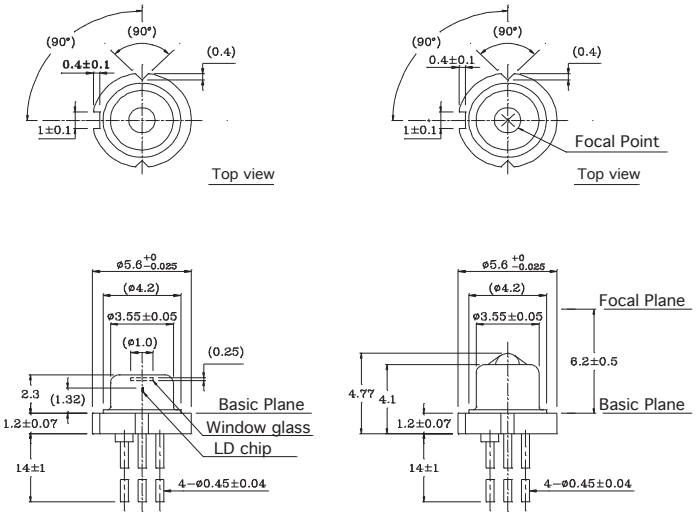
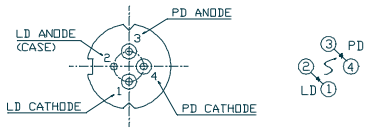
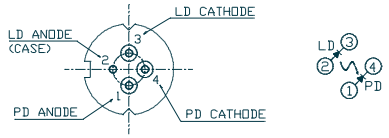
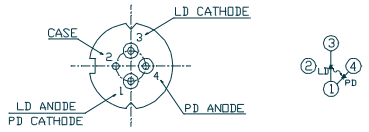
Outline Drawing & LD Pin Assignment

Outline Drawing

Units in mm.



Model	PIN Assignment (Bottom View)
A-type	
B-type	
D-type	

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Legal Notice