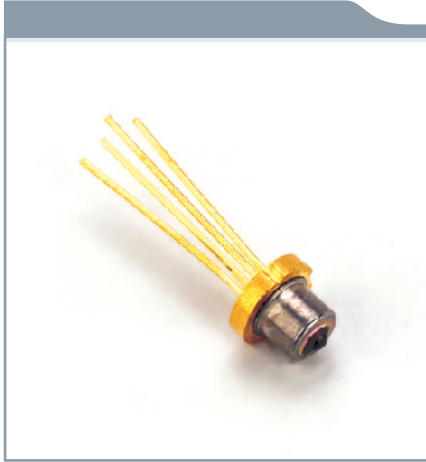


C-13XX-DFB-E-XX-NT



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 ($T_c=25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

Optical and Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency	SE	0.28	0.36	-	mW/ mA	CW, $P_o=5\text{mW}$
Flat window cap						
Ball lens cap						
Threshold Current	I_{th}	-	10	15	mA	CW, $P_o=5\text{mW}$
Optical Output Power	P_o	5	-	-	mW	CW, $I=I_{th}+20\text{mA}$
Peak Wavelength*	λ	n-2	n	n+2	nm	See note below
Side mode Suppression	S_r	30	35	-	dB	CW, $P_o=5\text{mW}$ (0 to +70 $^\circ\text{C}$)
Forward Voltage	V_F	-	1.2	1.5	V	CW, $P_o=5\text{mW}$
Temperature dependence of peak wavelength	$\Delta\lambda_p/\Delta\lambda$	-	0.09	-	nm/ $^\circ\text{C}$	CW, $P_o=5\text{mW}$ (0 to +70 $^\circ\text{C}$)
Beam Divergence	$\Delta//$	-	27	-	deg.	CW, $P_o=5\text{mW}$, FWHM
	$\Delta\perp$	-	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, $P_o=5\text{mW}$, $V_{rpd}=2\text{V}$
PD Dark Current	I_{DARK}	-	-	0.1	μA	$V_{rpd}=5\text{V}$
PD Capacitance	C_t	-	6	15	pF	$V_{rpd}=5\text{V}$, $f=1\text{MHz}$

Optical and Electrical Characteristics ($T_c = 70^\circ\text{C}$)

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

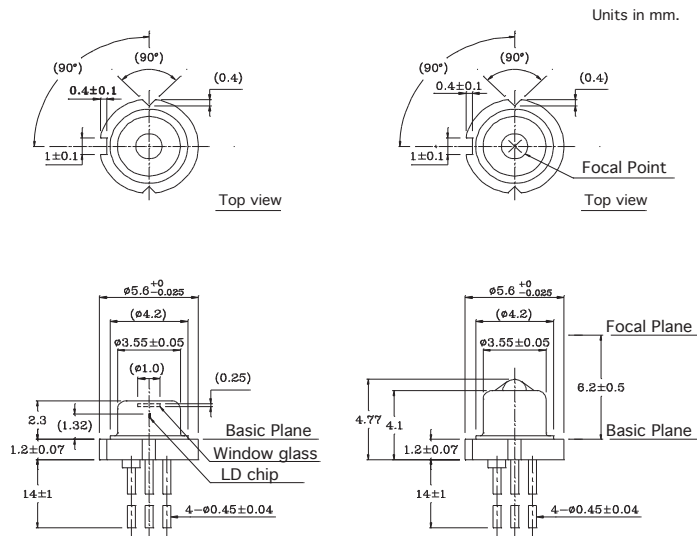
Note: Selected wavelength is available for CWDM application.

* Peak wavelength n=1274.6nm,1299.1nm,1323.6nm,1348.1nm

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

Outline Drawing & LD Pin Assignment

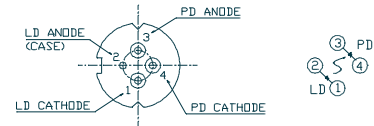
Outline Drawing



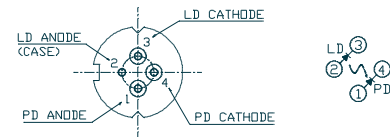
Model

PIN Assignment (Bottom View)

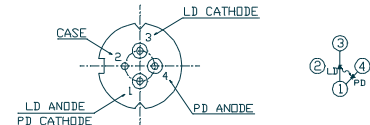
A-type



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.

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