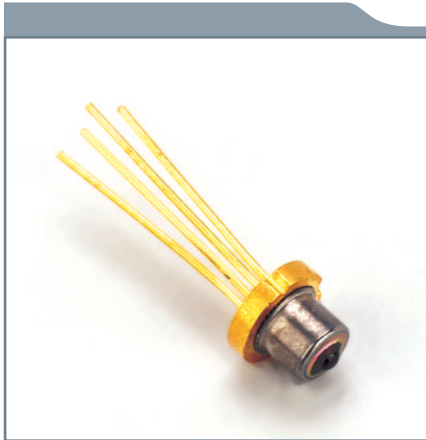


## C-15XX-DFB-E-XX-NT



### 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	$P_o$	6(CW)	mW
LD Reverse Voltage	$V_{rid}$	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 ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency	SE	0.15	0.25	-	mW/ mA	CW, $P_o=5\text{mW}$
Flat window cap						
Ball lens cap		0.12	0.18	-		
Threshold Current	$I_{th}$	-	10	15	mA	CW
Optical Output Power	$P_o$	3	4	-	mW	CW, $I_{bias}=I_{th}+20\text{mA}$
Peak Wavelength*	$\lambda$	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°C)
Forward Voltage	VF	-	1.2	1.5	V	CW, $P_o=5\text{mW}$
Temperature dependence of peak wavelength	$\Delta\lambda_p/\Delta T$	0.08	0.1	0.12	nm/°C	CW, $P_o=5\text{mW}$ (0 to +70°C)
Beam Divergence	$\theta_{//}$	-	25	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
	$\theta_{\perp}$	-	35	-		
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
Optical Output Power	$P_o$	6	-	-	mW	CW, $I_{bias}=I_{th}+60\text{mA}$ , flat window cap

Note: Selected wavelength is available for WDM application.

\*Peak wavelength n=1470nm, 1490nm, 1510nm, 1530nm, 1550nm, 1570nm, 1590nm, 1610nm

**C-15XX-DFB-E-XX-NT**

**Outline Drawing & LD Pin Assignment**

Outline Drawing	Model	PIN Assignment (Bottom View)
<p>Units in mm.</p> <p><b>A-type</b> Top view</p> <p><b>B-type</b> Focal Plane, Basic Plane, LD chip</p>	<p><b>A-type</b></p>	
	<p><b>B-type</b></p>	
	<p><b>D-type</b></p>	

**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**

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