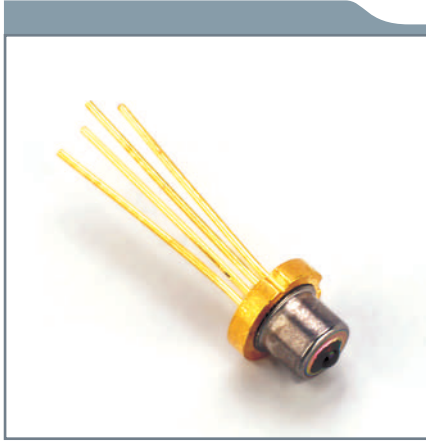


## C-1X-DFB2.5-E-XD-NT



### 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
- Designed for 2.5 Gbps high speed, long reach optical network
- 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	$P_o$		
C-13-DFB2.5-X-XX-XX		10 (CW)	mW
C-15-DFB2.5-X-XX-XX		6 (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 ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency	SE					
C-13-DFB2.5-E-AD-NT	SE	0.28	0.36	-	mW/ mA	CW, $P_o=5\text{mW}$
C-13-DFB2.5-E-BD-NT	SE	0.2	0.28	-	mW/ mA	CW, $P_o=5\text{mW}$
C-15-DFB2.5-E-AD-NT	SE	0.15	0.25	-	mW/ mA	CW, $P_o=5\text{mW}$
C-15-DFB2.5-E-BD-NT	SE	0.12	0.18	-	mW/ mA	CW, $P_o=5\text{mW}$
Threshold Current	$I_{th}$	-	10	15	mA	CW, $P_o=5\text{mW}$
Optical Output Power	$P_o$	5	-	-	mW	CW, kink free
Peak Wavelength					nm	See note below
C-13-DFB2.5-X-XX-XX	$\lambda$	1295	1310	1325	nm	See note below
C-15-DFB2.5-X-XX-XX	$\lambda$	1535	1550	1565	nm	See note below
Side mode Suppression	$S_r$	30	35	-	dB	CW, $P_o=5\text{mW}$ (0-70°C)
Forward Voltage	$V_f$	-	1.2	1.5	V	CW, $P_o=5\text{mW}$
Beam Divergence	$\theta//$	-	27	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
C-13-DFB2.5-X-XX-XX	$\theta_{\perp}$	-	32	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
Beam Divergence	$\theta//$	-	25	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
C-15-DFB2.5-X-XX-XX	$\theta_{\perp}$	-	35	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
Rise Time, Fall Time	$t_r, t_f$	-	-	150	ps	$I_{bias}=I_{th}$ , 10-90 %
PD Monitor Current	$I_m$	100	200	800	$\mu\text{A}$	CW, $P_o=5\text{mW}$ , $V_{rpd}=2\text{V}$
PD Dark Current	$I_{DARK}$	-	-	0.1	$\mu\text{A}$	$V_{rpd}=5\text{V}$
PD Capacitance	$C_t$	-	6	15	pF	$V_{rpd}=5\text{V}$ , $f=1\text{MHz}$

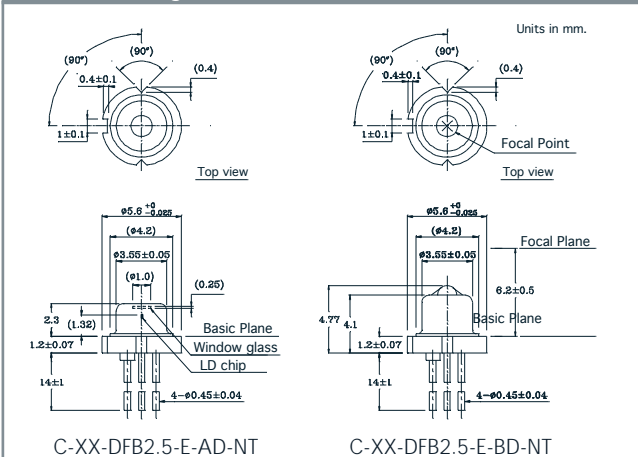
## C-1X-DFB2.5-E-XD-NT

### 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, $P_o=5\text{mW}$
Peak power current	$I_{Peak}$	-	-	100	mA	CW, $P_o=8\text{mW}$

Note: Selected wavelength is available for WDM application

### Outline Drawing

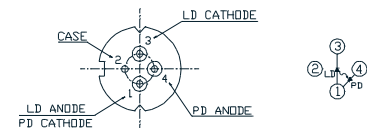


### LD Pin Assignment

#### Model

C-13-DFB2.5-E-AD-NT  
C-13-DFB2.5-E-BD-NT  
C-15-DFB2.5-E-AD-NT  
C-15-DFB2.5-E-BD-NT

#### PIN Assignment (Bottom View)



Note: Pin assignment can be customized

### 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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