

## C-13-002-E-XD



### Features

- Uncooled laser diode with MQW structure
- 5 mW CW operation at –40 to 85°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, optical network

### 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	$T_{opr}$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to +100	$^\circ\text{C}$

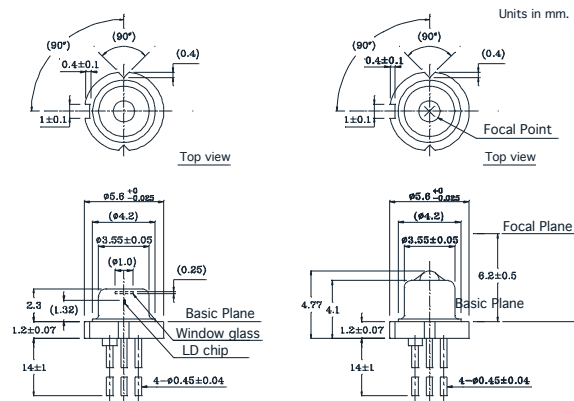
### Optical and Electrical Characteristics ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency						
C-13-002-E-AD	SE	0.3	0.35	-	mW/mA	CW, $P_o=5\text{mW}$
C-13-002-E-BD		0.2	0.3	-	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	$\lambda$	1290	1310	1330	nm	See note below
Spectral Width	$\Delta\lambda$	-	2	5	nm	CW, $P_o=5\text{mW}$
Forward Voltage	$V_F$	-	1.2	1.5	V	CW, $P_o=5\text{mW}$
Beam Divergence	$\theta_{//}$ $\theta_{\perp}$	-	27 32	-	deg.	CW, $P_o=5\text{mW}$ , FWHM
Rise Time, Fall Time	$t_r$ , $t_f$	-	-	150	ps	$I_{bias}=I_{th}$ , 0-90 %
PD Monitor Current	$I_m$	100	-	-	$\mu\text{A}$	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	$V_{rpd}=5\text{V}$ , $f=1\text{MHz}$

Note: Selected wavelength is available for WDM application

C-13-002-X-AD

## Outline Drawing



C-13-002-E-AD

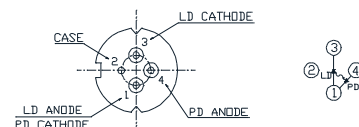
C-13-002-E-BD

### LD Pin Options Parameter

Model	PIN Assignment (Bottom View)
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C-13-002-E-AD

C-13-002-E-BD



## 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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