

C-13-001-E-X • C-15-001-E-X



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

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			
C-13-001-E-X	P_o	10 (CW)	mW
C-15-001-E-X	P_o	6 (CW)	mW
LD Reverse Voltage	V_{rld}	2	V
PD Reverse Voltage	V_{rpd}	10	V
PD Forward Current	I_{fpd}		
C-13-001-E-X		1	mA
C-15-001-E-X		2	mA
Operating Temperature	T_{opr}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +100	°C

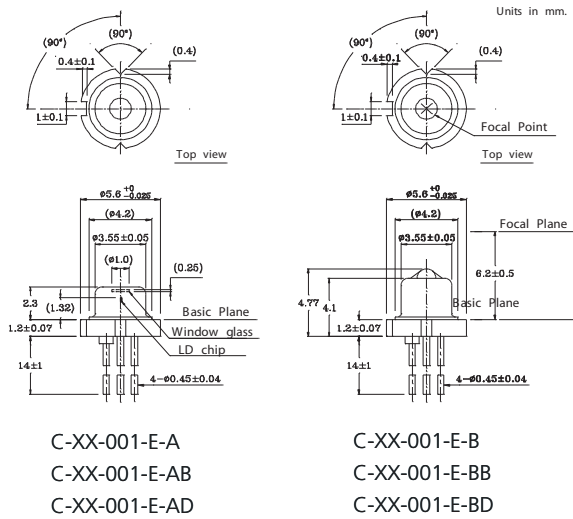
Optical and Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Slope Efficiency						
C-13-001-E-A	SE	0.3	0.35	-	mW/ mA	CW, $P_o=5\text{mW}$
C-13-001-E-B	SE	0.2	0.3	-	mW/ mA	CW, $P_o=5\text{mW}$
C-15-001-E-A	SE	0.2	0.25	-	mW/ mA	CW, $P_o=5\text{mW}$
C-15-001-E-B	SE	0.15	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						See note below
C-13-001-E-X	λ	1290	1310	1330	nm	
C-15-001-E-X	λ	1530	1550	1570	nm	
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	$\theta_{//}$	-	27	-	deg.	CW, $P_o=5\text{mW}$, FWHM
C-13-001-E-X	θ_{\perp}	-	32	-	deg.	CW, $P_o=5\text{mW}$, FWHM
Beam Divergence	$\theta_{//}$	-	20	-	deg.	CW, $P_o=5\text{mW}$, FWHM
C-15-001-E-X	θ_{\perp}	-	40	-	deg.	CW, $P_o=5\text{mW}$, FWHM
Rise Time, Fall Time	t_r, t_f	-	-	0.5	ns	$I_{bias}=I_{th}$, 10-90 %
PD Monitor Current	I_m	100	-	-	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	$V_{rpd}=5\text{V}$, $f=1\text{MHz}$

Note: Selected wavelength is available for WDM application

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Outline Drawing



LD Pin Assignment

Model	PIN Assignment (Bottom View)
C-XX-001-E-A C-XX-001-E-B	
C-XX-001-E-AB C-XX-001-E-BB	
C-XX-001-E-AD C-XX-001-E-BD	

Note: Pin assignments 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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