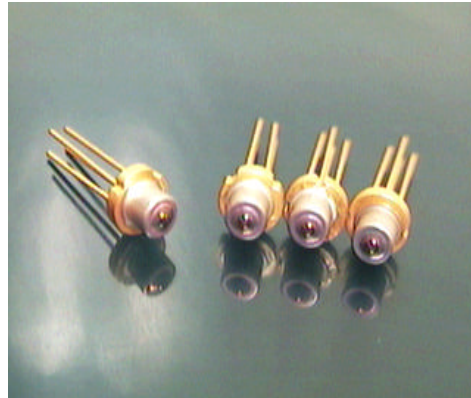


## 1310 nm LASER DIODE

### Features

- 1310 nm typical emission wavelength
- High temperature operation no TEC required
- 5 mW CW operation at wide temp. range (-40~+80°C)
- Low threshold current ,low operating current
- PIN photodiode for monitoring laser output
- High reliability, long operation life and advanced packaging technology
  - Multiple Quantum Well active layer
  - Hermetically sealed active component
  - 5.6 mm packaging with a ball lens cap



### Applications

- Optical communication system
  - Optical data links
  - Optical LANs
  - Subscriber loops

### Handling and Safety Precautions

Anti-static protection, such as ionized air blowers or grounded wrist straps with a 1 mega series resistor, should be used at all times when handling laser diodes. In addition, soldering irons should be well grounded.

Overheating caused by soldering of the leads of a laser diode must be prevented. Recommend soldering iron temperature and maximum exposure times are below 260°C and 10 seconds.

### Description

The MCE-3E5B-002 is a low cost and high performance 1310 nm EEL ( Edge Emitting Laser ) and built-in InGaAs/InP PIN photodiode for optical output monitoring. This product is designed for short and medium distance optical fiber communication.

The MCE-3E5B-002 is compatible with industry standard wave or hand solder processes and eye safety .

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**Unity Opto Technology Co., Ltd.**

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Sanchung City, 241 Taipei, Taiwan

**For prototype and Production call**

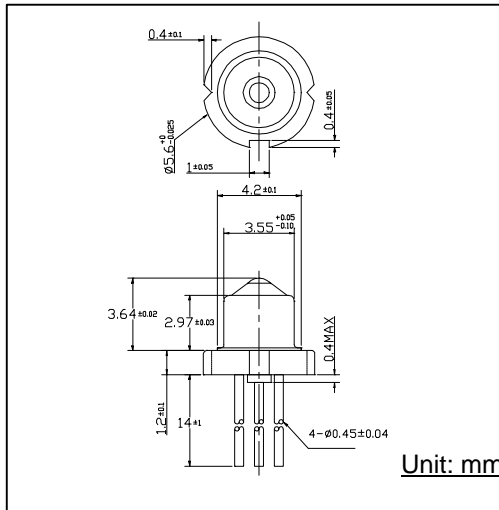
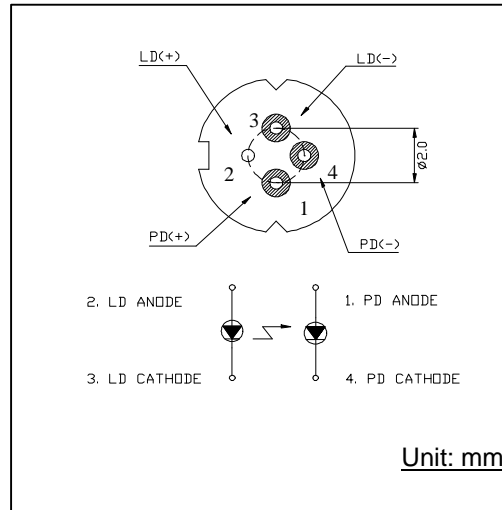
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**Absolute Maximum Ratings (Tc = 25 °C)**

Parameter	Symbol	Rated Value	Unit
Optical output power ( CW )	Po	10	mW
LD reverse voltage	Vr <sub>L</sub>	2	V
PD reverse voltage	Vr <sub>P</sub>	10	V
PD Forward current	If <sub>P</sub>	1	mA
Operating case temperature	Top	- 40 to +85	°C
Storage temperature	T <sub>STG</sub>	- 40 to +85	°C

**Optical & Electrical Characteristics (Tc = 25 °C)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Optical output power	Po	Kink free, CW	5	3/4	3/4	mW
Threshold current	I <sub>th</sub>	Po=5mW, CW	3/4	10	20	mA
Operating voltage	Vop	Po=5mW, CW	3/4	1.2	1.7	V
Lasing Wavelength	λ <sub>p</sub>	Po=5mW, CW	1290	1310	1330	nm
Spectral Width (RMS)	Δλ	Po=5mW, CW	3/4	2	5	nm
Beam divergence	q <sup>^</sup>	Po=5mW, CW, FWHM	3/4	15	3/4	deg.
	q//	Po=5mW, CW, FWHM	3/4	8	3/4	deg.
Rise /Fall time	tr/tf	Po=5mW, CW, I <sub>bias</sub> =I <sub>th</sub> , 20~80 %	3/4	3/4	0.5/0.5	ns
Slope efficiency	h	Po=5mW, CW	0.2	0.3	3/4	mW/mA
PD Monitor current	I <sub>m</sub>	Po=5mW, CW	100	3/4	3/4	μA
PD Dark Current	I <sub>D</sub>	Vr <sub>P</sub> =5V	3/4	3/4	0.1	μA
PD Capacitance	C <sub>t</sub>	Vr <sub>P</sub> =5V, f=1 MHz	3/4	3	15	pF


**Package Dimensions**

**Pin Connections ( Bottom View )**

NOTE: Specifications are subjected to change without notice.

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