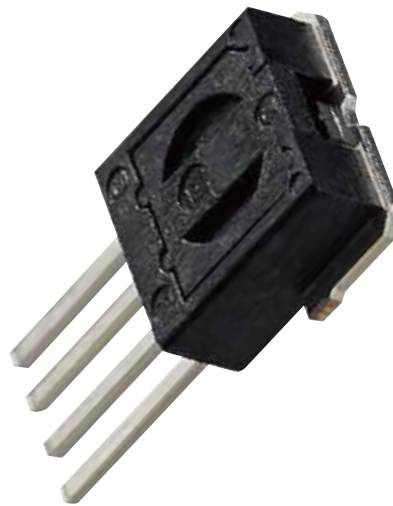


# SPECIFICATIONS

## Laser Diode

### GH1942BA8C



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Contents in this technical document be changed without any notice due to the product modification. In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in wquipment using any SHARP devices shown in catalogs, data books, etc.

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The failed Sharp product after the above one (1) year ( or six (6) month for generalized product) period will be coped with by Sharp, provided that both parties shall discuss and determine on sharing responsibility based on the analysis results thereof subject to the above scope of warranty.

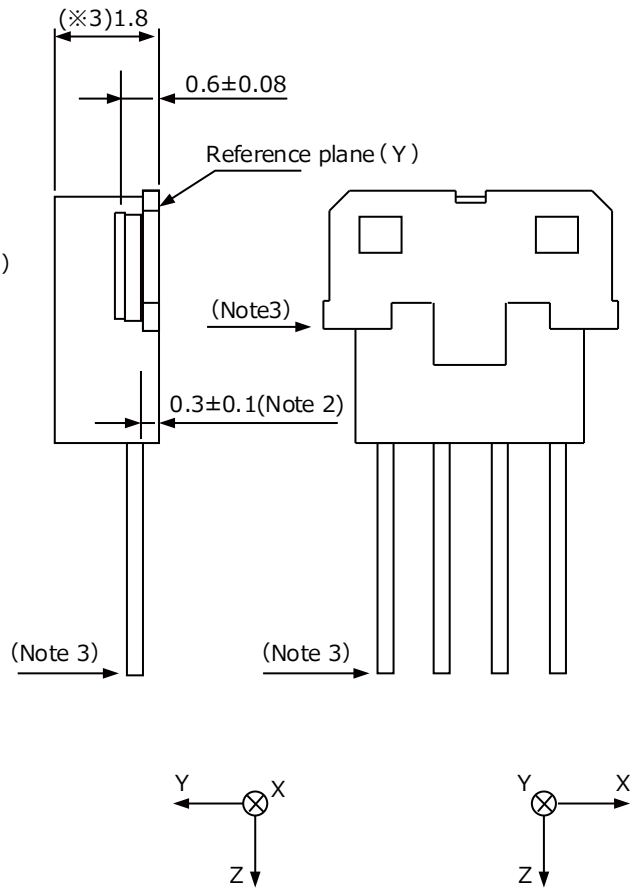
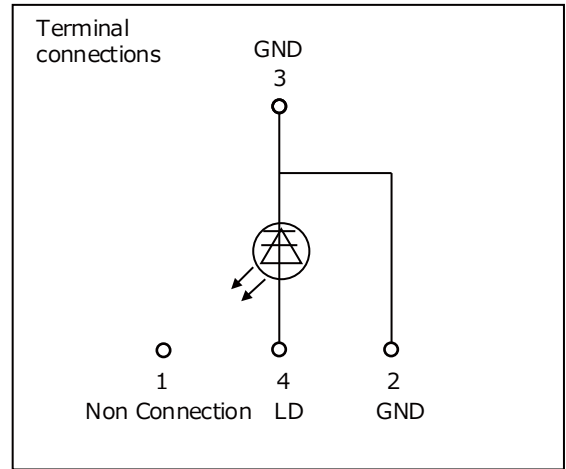
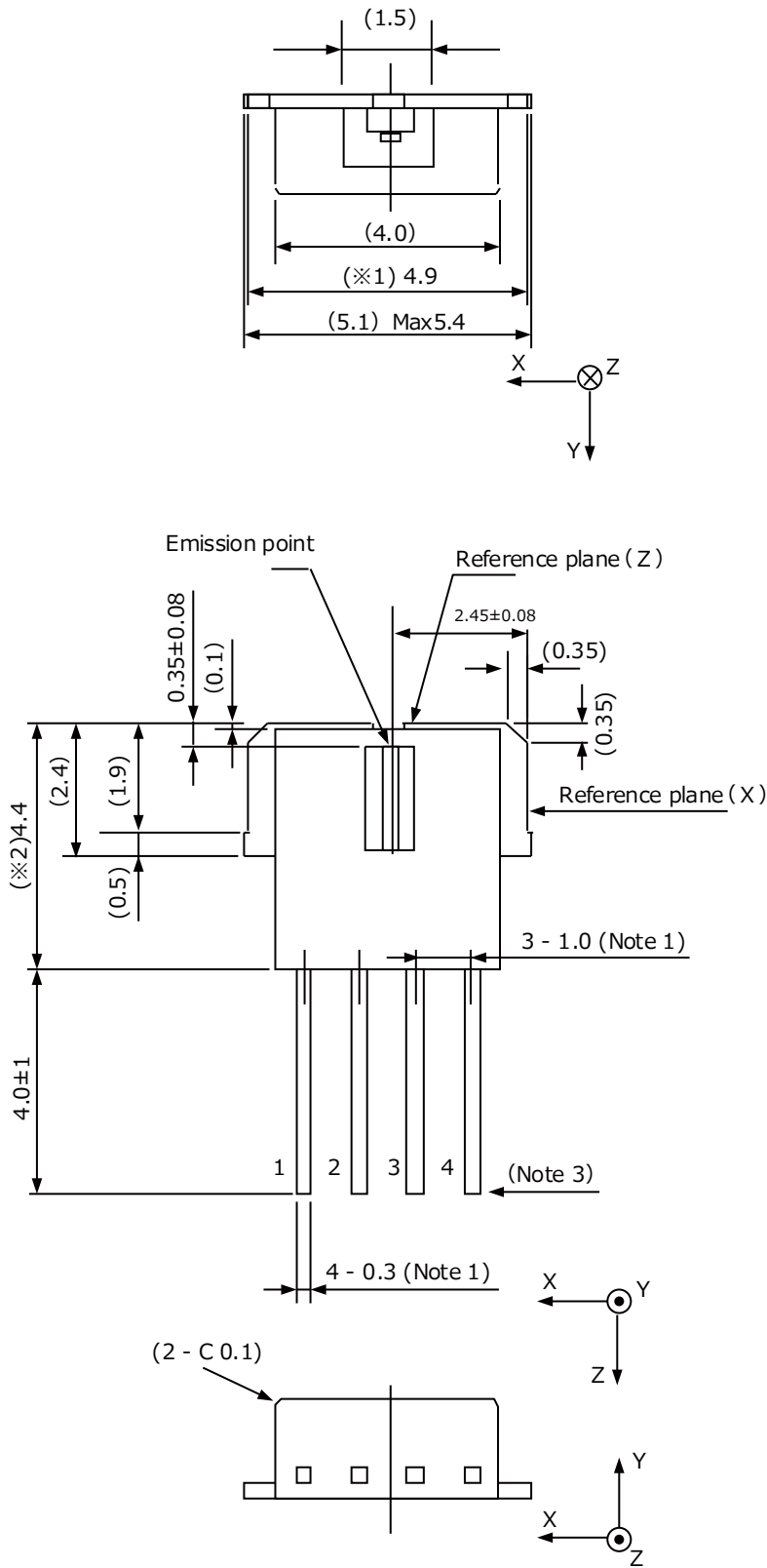
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- (5) installation problem.
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- (7) external factors (abnormal voltage, abnormal electromagnetic wave, fire, etc.)
- (8) special environment (factory, coastal areas, hot spring area, etc.)
- (9) phenomenon which cannot be foreseen based on the practical technologies at the time of shipment.
- (10) the factors not included in the product specification sheet.

4. Please contact and consult with a Sharp sales representative for any questions about Sharp product.

## ■ Outline dimensions and Terminal connections



GENERAL TOLERANCES :  $\pm 0.2$   
 UNIT : mm  
 ( ) : Reference values

- Note 1) Dimension of the bottom of lead pins.
- Note 2)  $0.3 \pm 0.1$ (mm) thickness lead frame board is used.
- Note 3) Cutting section of lead frame is no Ag plating.

## ■ Ratings and Characteristics

### Absolute Maximum Ratings

(Tc=25°C(Note 1))

Parameter		Symbol	最大定格値	単位
Optical power output	CW	P <sub>o</sub>	210	mW
Reverse voltage	Laser diode	V <sub>rl</sub>	2	V
Operating temperature	CW Operation(Note 2)	T <sub>op</sub> (c)	-10 ~ +70	°C
Storage temperature		T <sub>stg</sub>	-40 ~ +85	°C
Soldering temperature (Note 3)		T <sub>sld</sub>	350	°C

(Note 1) T<sub>c</sub> : Case temperature (Frame heat radiation part temperature)

(Note 2) Soldering temperature means soldering iron tip temperature while soldering.

(The Power of soldering iron must be 50W or below.)

Soldering position is 2mm apart from bottom edge of the case.(Immersion time: 5s)

## ■ Electro-optical Characteristics of laser diode (Note 1)

(Tc=25°C(Note 1))

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current	I <sub>th</sub>	-	-	45	60	mA
Operating current	I <sub>op</sub>	P <sub>o</sub> = 200mW	-	230	275	mA
Operating voltage	V <sub>op</sub>		-	1.9	2.4	V
Wavelength	λ <sub>p</sub>		925	940	955	nm
Half Intensity Angle(Parallel)(Note 2,3)	θ <sub>∥</sub>		TBD	9	TBD	°
Half Intensity Angle(Perpendicular)(Note 2,3)	θ <sub>⊥</sub>		TBD	19	TBD	°
Misalignment angle (Parallel) (Note 3)	Δθ <sub>∥</sub>		-3	-	+3	°
Misalignment angle (Perpendicular) (Note 3)	Δθ <sub>⊥</sub>		-5	-	+5	°
Differential efficiency	η <sub>d</sub>		$\frac{180mW}{I(200mW)-I(20mW)}$	0.7	1.0	1.3
Kink (Note 6)	K-LI	P1=42mW, P2=126mW P3=210mW	-10	-	10	%
Visibility (Note 5)	α	P <sub>o</sub> = 200 mW	-	-	1	-

(Note 1) Initial value, Continuous Wave Operation

(Note 2) Angle of 50% peak intensity (Full angle at half-maximum)

(Note 3) Parallel to the junction plane(X-Z plane)

Perpendicular to the junction plane(Y-Z plane)

(Note 4)  $RI \equiv \Delta P/P$

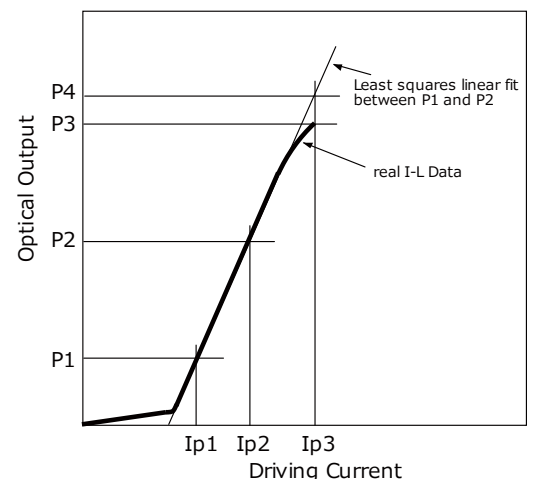
ΔP:the maximum deviation of the far field pattern from its approximate curve

P:the peak of the approximate curve

(Note 5)Visibility is measured by optical spectrum analyzer model No.Q8344A(ADVANTEST Corporation).

(Note 6)Definition of K-LI

$$K-LI = ( P4 - P3 ) / P3$$



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<http://www.sharp-world.com/products/device/>

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