

SPECIFICATIONS

Laser Diode

GH0631IA2G



Notice

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LIGHTING BUSINESS UNIT
ELECTRONIC COMPONENTS AND DEVICES BU
SHARP CORPORATION

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(Precautions)

- (1) In making catalogue or instruction manual based on the specification sheets, please verify the validity of the catalogue or instruction manuals after assembling Sharp products in customer's products at the responsibility of customer.
- (2) This Sharp product is designed for use in the following application areas ;
 - Computers • OA equipment • Telecommunication equipment (Terminal) • Measuring equipment
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- (3) Appropriate measures, such as fail-safe design and redundant design considering the safety design of the overall system and equipment, should be taken to ensure reliability and safety when Sharp product is used for equipment in responsibility of customer which demands high reliability and safety in function and precision, such as ;
 - Transportation control and safety equipment (aircraft, train, automobile etc.)
 - Traffic signals • Gas leakage sensor breakers • Rescue and security equipment
 - Other safety equipment
- (4) Sharp product is designed for consumer goods and controlled as consumer goods in production and quality.
Please do not use this product for equipment which require extremely high reliability and safety in function and precision, such as ;
 - Space equipment • Telecommunication equipment (for trunk lines)
 - Nuclear power control equipment • Medical equipment
- (5) Please contact and consult with a Sharp sales representative if there are any question regarding interpretation of the above four paragraphs.

3. Disclaimer

The warranty period for Sharp product is one (1) year (or six (6) months in case of generalized product) after shipment. During the period, if there are any products problem, Sharp will repair (if applicable), replace or refund. Except the above, both parties will discuss to cope with the problems.

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.

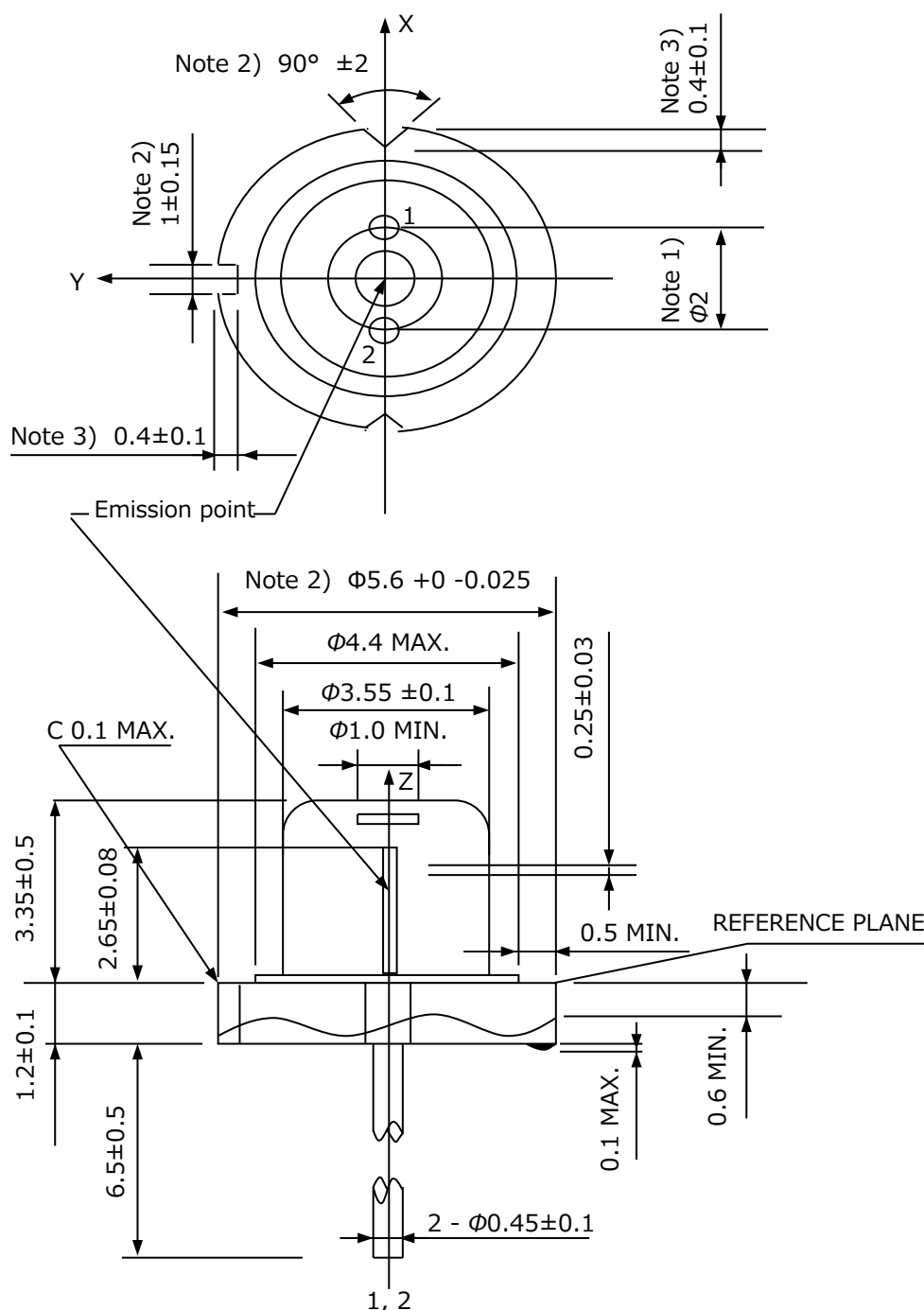
The warranty described herein is only for Sharp product itself which are purchased by or delivered to customer. Damages arising from Sharp product malfunction or failure shall be excepted.

Sharp will not be responsible for the Sharp product due to the malfunction or failures thereof which are caused by:

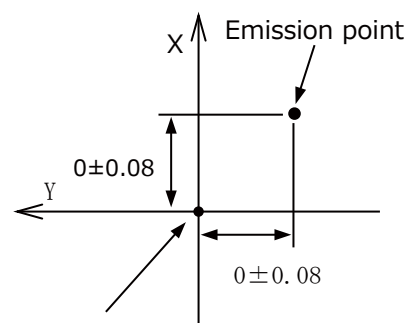
- (1) storage keep trouble during the inventory in the marketing channel.
- (2) intentional act, negligence or wrong/poor handling.
- (3) equipment which Sharp products are connected to or mounted in.
- (4) disassembling, reforming or changing Sharp products.
- (5) installation problem.
- (6) act of God or other disaster (natural disaster, fire, flood, etc.)
- (7) external factors (abnormal voltage, abnormal electromagnetic wave, fire, etc.)
- (8) special environment (factory, coastal areas, hotspring 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

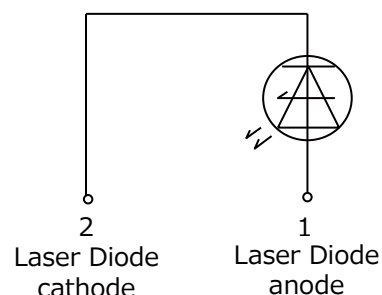


Enlarged drawing around the emission point



Center of the imaginary circle which goes through the three points around the stem

Terminal connections



Mass of the product :
0.32g (reference value)

Note 1) Dimension of the bottom of leads.

Note 2) These dimensions are valid only in the range of 0 ~ 0.6mm below from the reference plane.

Note 3) These dimensions are defined from the imaginary circle which goes through the three points around the stem to the bottom of cut off parts.

■ Ratings and Characteristics

Absolute Maximum Ratings

(Tc=25°C(Note 1))

Parameter	Symbol	Value	Unit
Optical power output (CW)	-10°C≤Tc≤40°C	P _o	185
	40°C<Tc≤60°C	P _o	120
Reverse voltage	V _{rl}	2	V
Operating temperature (Case temperature)	T _{op} (c)	-10 ~ +60	°C
Storage temperature	T _{stg}	-40 ~ +85	°C
Soldering temperature (Note 2)	T _{sld}	350	°C

(Note 1) T_c : Case temperature

(Note 2) Soldering temperature means soldering iron tip temperature (The power 30W) while soldering.
Soldering position is 1.6mm apart from bottom edge of the case.(Immersion time: ≤3s)

Electro-optical Characteristics

(Tc=25°C(Note 1))

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Throshold current	I _{th}	-	-	70	90	mA
Operating current	I _{op}	P _o = 180 mW	-	215	240	mA
Operating voltage	V _{op}		-	2.55	3.0	V
Wavelength	λ _p		635	638	643	nm
Half Intensity Angle (Parallel) (Note 2,3)	θ		4	8	12	°
Half Intensity Angle (Perpendicular) (Note 2,3)	θ _⊥		8	13	18	°
Misalignment angle (Parallel) (Note 3)	Δθ		-3	0	+5	°
Misalignment angle (Perpendicular) (Note 3)	Δθ _⊥		-5	0	+5	°
Differential efficiency	η _d	$\frac{150\text{mW}}{I(180\text{mW})-I(30\text{mW})}$	0.9	1.15	-	mW/mA

(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) It is based on method for measurement of light spectrum analyzer Q8344A
made by Advantest Corp. of Sharp Corp. property.

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

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