

SPEC No.	LH16404B
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ISSUE:	Apr. 8. 2016
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To ; _____

TARGET TECHNICAL LITERATURE

Product Type Laser Diode

Model No. 4G16007

※These specifications contain 4 pages including the cover and appendix.

If you have any objections, please contact us before issuing purchasing order.

◆ This technical literature is subject to change without notice. ◆

Development Dept., I
Lighting Device Business Unit
Electronic Components And Devices Company
SHARP CORPORATION

Product name : LASER DIODE

Model No. : 4G16007

1. These specification sheets include materials protected under copyright of Sharp Corporation ("Sharp"). Please do not reproduce or cause anyone to reproduce them without Sharp's consent.
2. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets, as well as the precautions mentioned below.
Sharp assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets, and the precautions mentioned below.

(Precautions)

- (1) Please do verify the validity of this part after assembling it in customer's products, when customer wants to make catalogue and instruction manual based on the specification sheet of this part.

- (2) This product is designed for use in the following application areas ;

* OA equipment	* Audio visual equipment	* Home appliance
* Telecommunication equipment (Terminal)	* Measuring equipment	
* Tooling machines	* Computers	

If the use of the product in the above application areas is for equipment listed in paragraphs (3) or (4), please be sure to observe the precautions given in those respective paragraphs.

- (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 this product is used for equipment 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) Please do not use this product for equipment which require extremely high reliability and safety in function and precision, such as ;

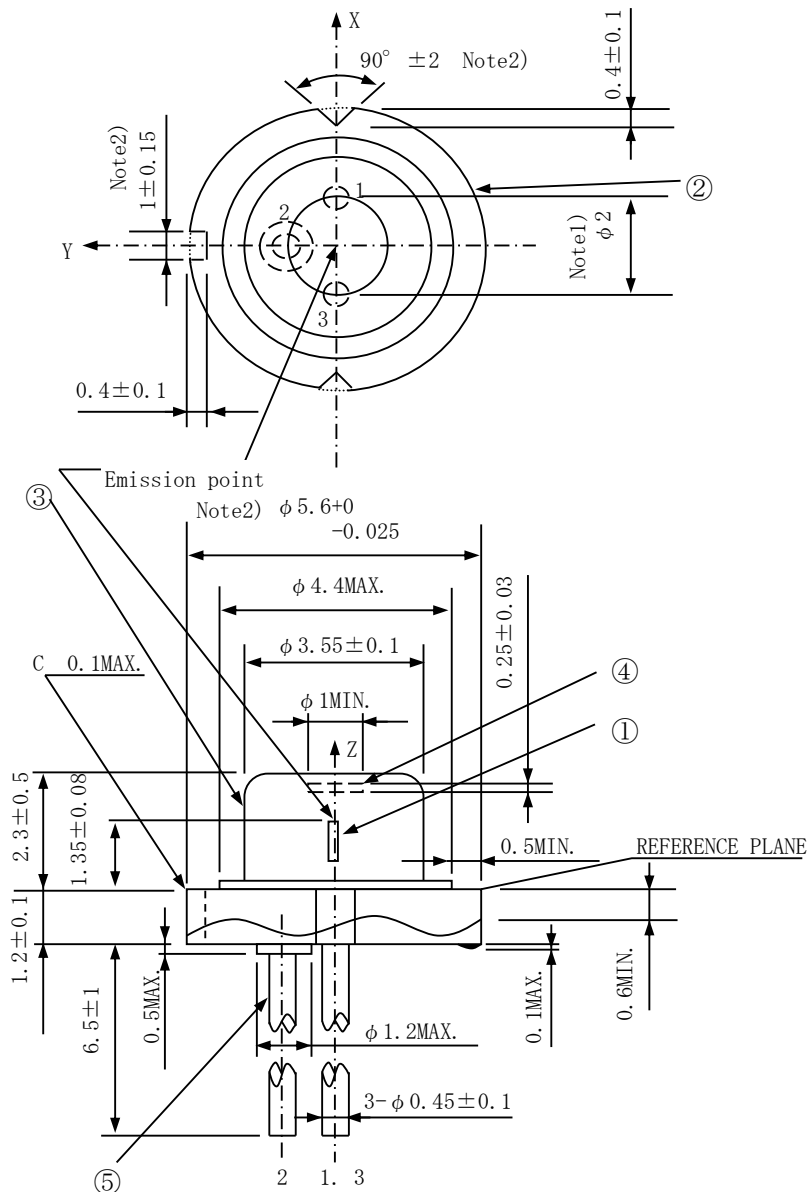
* Space equipment * Telecommunication equipment (for trunk lines)
* Nuclear power control equipment * Medical equipment

- (5) Please contact and consult with a Sharp sales representative if four are any questions regarding interpretation of the above four paragraphs.

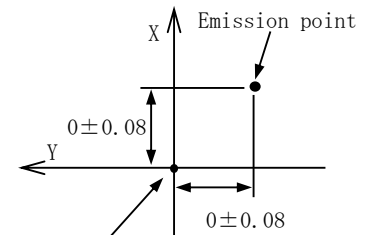
3. Please contact and consult with a Sharp sales representative for any questions about this product.

4. Outline dimensions and Terminal connections

LH16404B



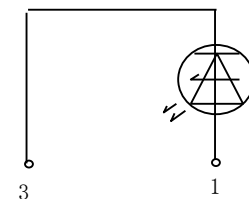
Enlarged drawing
around the emission point



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

Terminal
connections

Note 3)
2 Stem



Mass of the product :
0.31g (reference value)

Marking
Position : TBD
Printed contents : TBD

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) Please don't connect the lead pin No.2 to the driving circuit.

GENERAL TOLERANCES ± 0.2

UNIT:mm

No.	Component	Material	Finish
①	Laser Diode Chip	InAlGaN	-
②	Stem	Fe/Cu	Gold-plated
③	Cap	45Alloy	Nickel+Pd plated
④	Window glass	Borosilicated glass	-
⑤	Lead pins	Kovar	Gold-plated

5. Ratings and characteristics

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Absolute Maximum Ratings

(Tc=25°C(Note 1))

Parameter	Symbol	Ratings	unit
Optical power output(CW) (Note 2)	Po	80	mW
Reverse voltage	Laser diode Vrl	2	V
Operatings temperature(case temp.)	Top(c)	-10~+70	°C
Storage temperature(case temp.)	Tstg	-40~+85	°C

(Note 1) Tc :Case temperature

(Note 2)CW :Continuous Wave Operation

Electro-optical Characteristics(Note 1) (Tc=25°C)

Parameter		Symbol	Conditions	min	typ	max	unit
Threshold current		Ith	-	-	22	-	mA
Operating current		Iop	Po=80mW	-	84	-	mA
Operating voltage		Vop		-	5.1	-	V
Wavelength		λp		440	450	460	nm
Radiation Charcter-istics	Angle (Note 2) (Note 3)	θ //		-	10	-	°
		θ ⊥		-	24	-	°
Emission point accuracy	Angle (Note 3)	Δθ //		-3	0	3	°
		Δθ ⊥	-3	0	3	°	
Differential efficiecy		ηd	$\frac{70mW}{I(80mW)-I(10mW)}$	-	1.3	-	mW/mA

(Note 1) Initial value, Continuous Wave Operation.

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

(Note 3) Paralel to the junction plane.(X-Z plane)

Perpendicular to the junction plane.(Y-Z plane)