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TECHNICAL LITERATURE  
FOR  
VISIBLE LASER DIODE

Model No. GH06507A2series

Model No.

GH06507A2A	
GH06507A2B	

DATE December 9, 1997

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

SHARP CORPORATION  
ELECTRONIC COMPONENTS GROUP

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LH97Z03

This sheet is technical literature of red laser diode of series.

1. Structure

Laser diode : AlGaInP red laser diode with strained MQW structure .  
 prepared with three steps Molecular Beam Epitaxial groth  
 Photo diode : Si photo diode for laser power control (Note 1)

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Terminal Connections	P.3	P.3

2. Ratings and Characteristics

2-1 Absolute Maximum Ratings

(Tc=25°C (Note 1))

Parameter	Symbol	Ratings	Units
Optical power output CW	P <sub>o</sub>	7	mW
Reverse voltage	V <sub>R</sub>	2	V
		30	
Operating temperature (case temperature)	T <sub>opr</sub>	-10 ~ +70	°C
Storage temperature (case temperature)	T <sub>stg</sub>	-40 ~ +85	

2-2 Electro-optical Characteristics (Note 2)

(Tc=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Threshold current	I <sub>th</sub>	-	-	45	70	mA
Operating current	I <sub>op1</sub>	P <sub>o</sub> =5mW	-	60	90	
Operating voltage	V <sub>op</sub>		-	2.3	2.5	V
Wavelength	λ <sub>p</sub>		640	650	655	nm
Transverse mode	-		TE			-
Radiation Character-istics	Angle (Note3)		7.0	8.5	10.0	°
			24	29	34	
	Ripple		-	-	±20	%
Emission point accuracy	Angle		-	-	±2	°
			-	-	±3	
Differential efficiency	η	$\frac{3mW}{I(5mW) - I(2mW)}$	-	0.45	-	mW/mA
Visibility	γ	P <sub>o</sub> =1~6mW	-	-	1.0	-
Monitor current	GH06507A2A	I <sub>m</sub> P <sub>o</sub> =5mW, V <sub>R</sub> =5V	-	0.75	-	mA
	GH06507A2B		-	0.2	-	

Note 1 Case temperature

Note 2 Initial value, CW operation

Note 3 Angle of 50% peak intensity (Full angle at half maximum)

|| : Parallel to the junction plane

⊥ : Perpendicular to the junction plane

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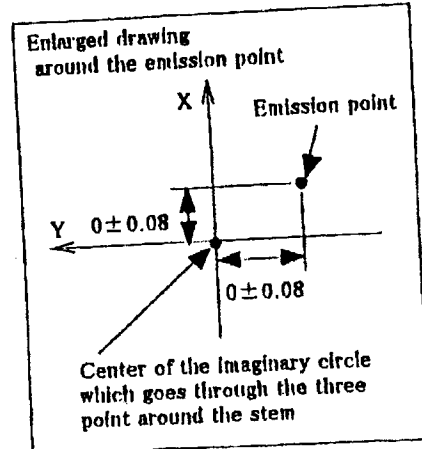
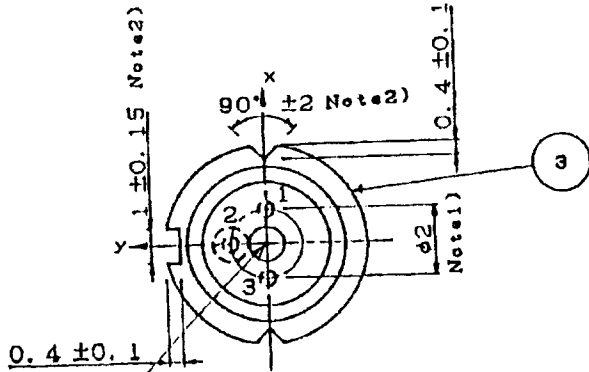
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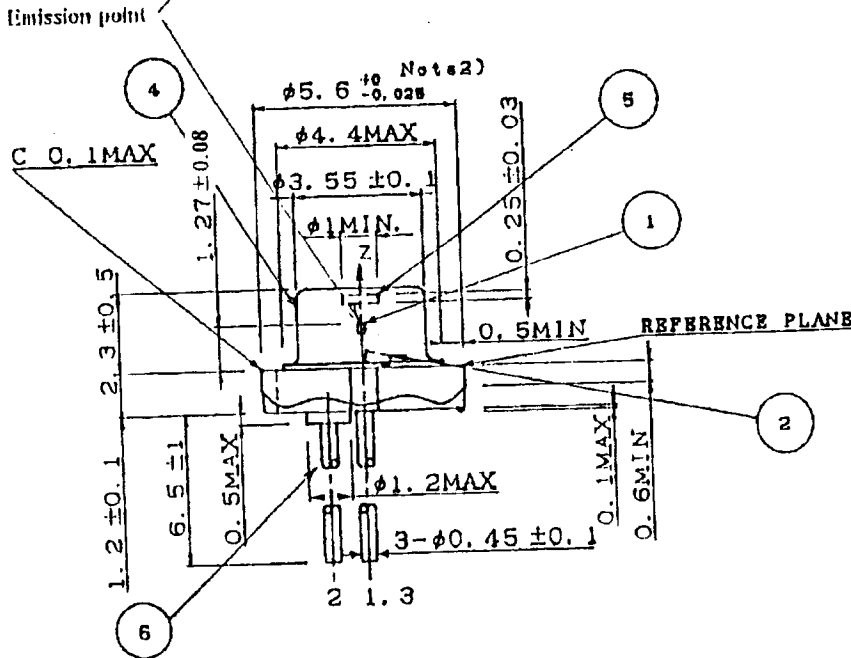
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3. Outline dimensions and Terminal connections



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.

GENERAL TOLERANCES ±0.2  
UNIT:mm

No.	Component	Material	Finish
1	Laser Diode Chip	AlGaInP	-
2	Photodiode chip	Si	-
3	Stem	Fe	Gold-plated
4	Cap	Kovar	Nickel-plated
5	Window glass	Borosilicated glass	n=1.49 (Typ. λ=650nm)
6	Lead pins	Kovar	Gold-plated

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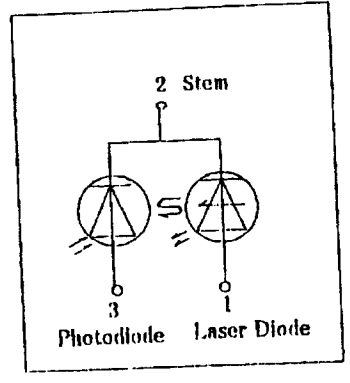
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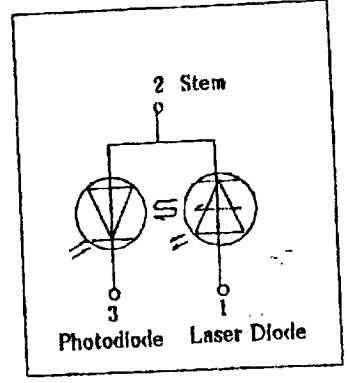
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4. Terminal connections



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