

## GH0942FA2G

## Infrared Laser Diode

### Infrared Laser Diode

#### ■ Features

- (1) Wavelength : 940nm(Typ.)
- (2) Single mode output
- (3)  $\Phi$ 5.6mm CAN package

#### ■ Applications

- (1) VR / AR
- (2) Short range LiDAR
- (3) Laser sensor
- (4) other application

#### ■ Absolute Maximum Ratings

( Tc=25°C \*1,\*2 )

Parameter	Symbol	Ratings	Unit
Optical output power	Po	260	mW
Reverse voltage (LASER)	Vrl	2	V
Operating temperature (*1)	Top (C)	-10 ~ +70	°C
Storage temperature	Tstg	-40 ~ +85	°C
Soldering temperature (*2)	Tsld	350	°C

\*1 Tc : Case temperature

\*2 Soldering temperature means soldering iron tip temperature. Soldering position is 1.6mm apart from bottom edge of the case. (Immersion time:  $\leq$ 3s)

#### ■ Specifications

( Tc=25°C \*1 )

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current	Ith	-	-	45	60	mA
Operating current	Iop	-	-	300	345	mA
Operating voltage	Vop	-	-	2.4	2.90	V
Wavelength	$\lambda_p$	-	930	940	950	nm
Half Intensity Angle(Parallel)(Note 2,3)	$\theta_{//}$	Po=250mW	5	8	11	°
Half Intensity Angle(Perpendicular)(Note 2,3)	$\theta_{\perp}$	Po=250mW	10	14	18	°
Ripple (Note 3,4)	RI	-	0	-	20	%
Misalignment angle (Parallel) (Note 3)	$\Delta\theta_{//}$	-	-3	-	3	°
Misalignment angle (Perpendicular) (Note 3)	$\Delta\theta_{\perp}$	-	-5	-	5	°
Differential efficiency	$\eta_d$	$\frac{225mW}{I(250mW)-I(25mW)}$	0.62	0.97	-	mW/mA
Kink (Note 5)	K-LI	P1=42mW, P2=156mW P3=260mW	-10	-	10	%

\*1 Initial value, Continuous Wave Operation

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

\*3 Parallel to the junction plane(X-Z plane) , Perpendicular to the junction plane(Y-Z plane)

\*4  $RI = \Delta P / P$

$\Delta P$ : the maximum deviation of the far field pattern from its approximate curve

P: the peak of the approximate curve

\*5 Definition of K-LI

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

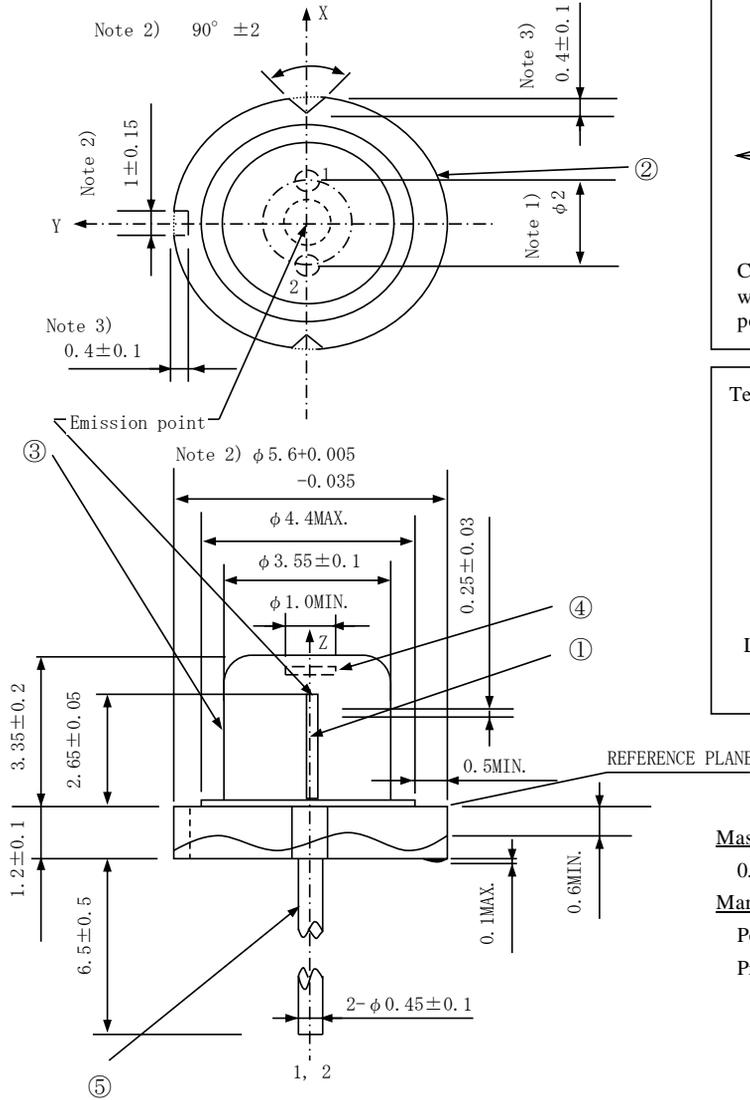
(Notice)

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### ■ Connections and outline dimensions



General Tolerances:  $\pm 0.2$

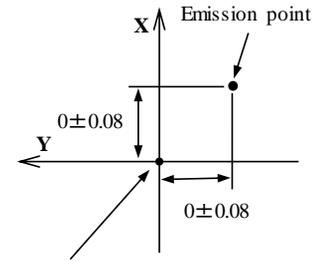
Unit: mm

(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.

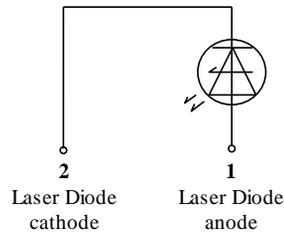
(Note 3) These dimensions are defined from the imaginary circle which goes through the three points around the stem to the bottom of cut off parts.

Enlarged drawing around the emission point



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

Terminal connections



Mass of the product:

0.32g (reference value)

Marking

Position : side of a cap

Printed contents :

1	2
3	4

(4 Character)

1 Year of production

2 Month of production

3 Model name

4 Production lot

The alphanumeric character indicating the above is printed.

No.	Component	Material	Finish
①	Laser diode chip	AlGaInP/CuAlAs	-
②	Stem	Fe	Au plated
③	Cap	45 Alloy	Ni+Pd plated
④	Window glass	Borosilicate glass	Typ. n=1.516 (λp=830nm)
⑤	Lead pins	Kovar	Au plated

(Notice)

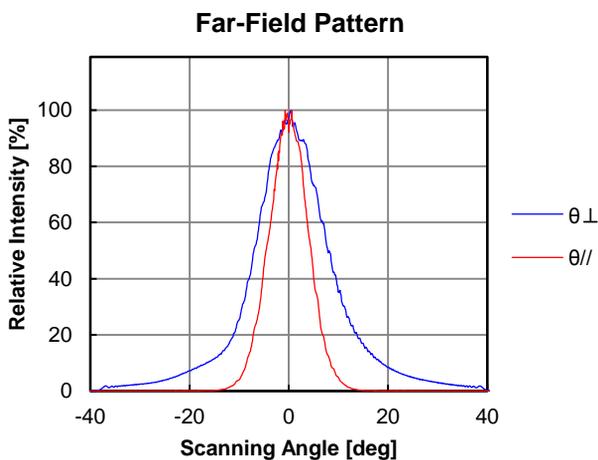
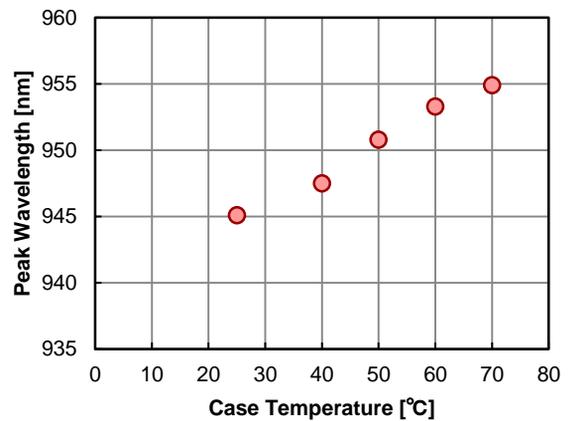
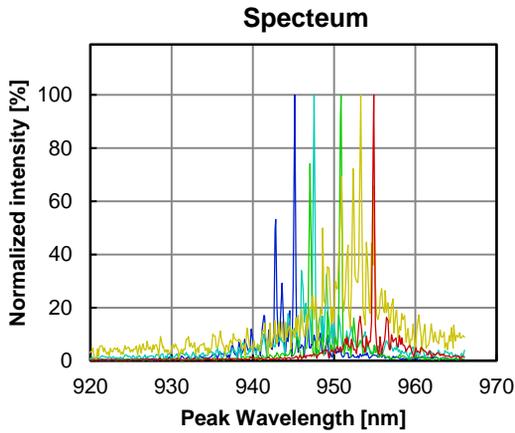
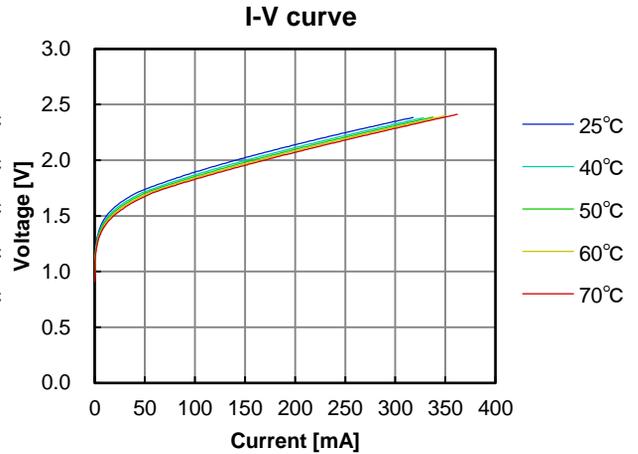
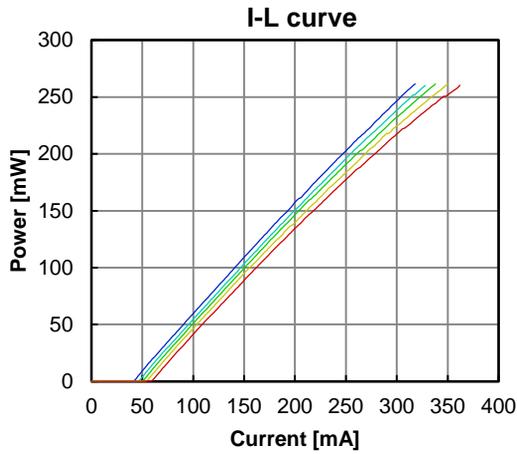
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■ Characteristics

T<sub>c</sub> = 25°C



(Note) Characteristics data shown here are for reference purpose only. (Not guaranteed data)

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