

GH04020A2GE

Blue violet Laser Diode

Low Power Blue violet Laser Diode

■ Features

- (1) Wavelength : 406 nm(Typ.)
- (2) Optical power output : 20mW (Max)
- (3) 5.6mm CAN package

■ Applications

- (1) Blu-ray Disc/HD DVD drive
- (2) other new application

■ Absolute Maximum Ratings

($T_c=25$ °C¹)

Parameter	Symbol	Rating	Unit
² Optical power output (CW)	P_o	20	mW
Reverse voltage	V_{rl}	2	V
² Operating temperature (CW)	$T_{op(c)}$	0 ~ +70	
Storage temperature	T_{stg}	-40 ~ +85	
³ Soldering temperature	T_{sld}	300	

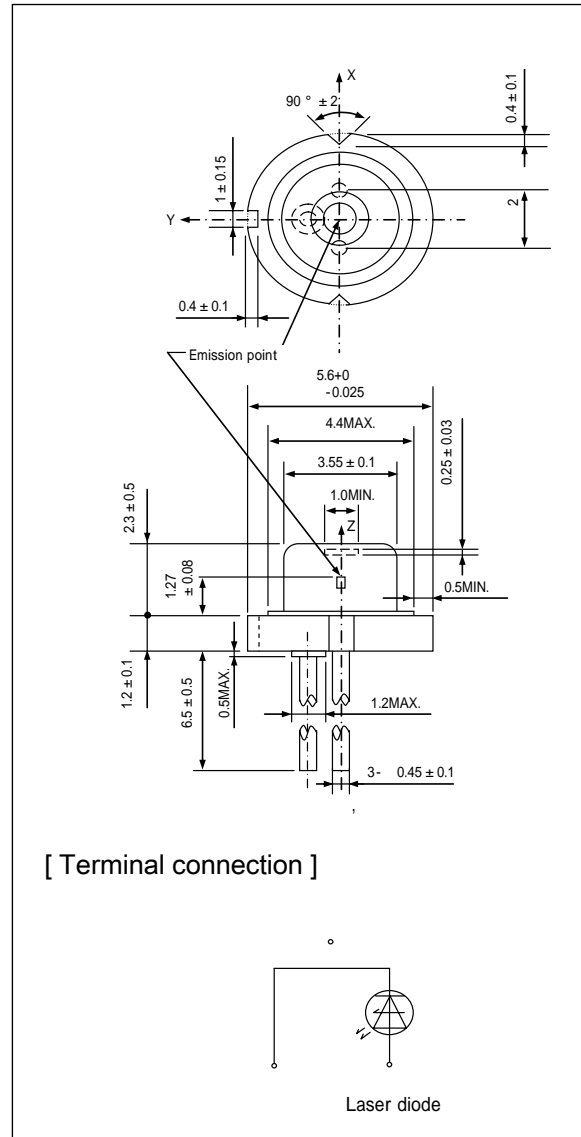
¹ T_c : Case temperature

² CW(Continuous Wave) drive

³ At the position of 1.6mm or more from the lead base (3s)

■ Outline Dimensions

(Unit : mm)



(Notice)

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■ Specifications

(T_c=25 °C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Threshold current	I _{th}	-	-	25	50	mA	
Operating current	I _{op}	P _o =10mW	-	35	60	mA	
Operating voltage	V _{op}		-	4.8	5.8	V	
Wavelength	λ _p		400	406	415	nm	
Differential efficiency	η _d	$\frac{6mW}{I(10mW)-I(4mW)}$	0.7	1.1	1.6	mW/mA	
Half intensity angle ³ ⁴	Parallel	P _o = 5mW	θ _{//}	6.0	9.5	12.0	°
	Perpendicular		θ	15	20	24	°
Misalignment angle ⁴	Parallel		Δθ _{//}	-2.5	-	2.5	°
	Perpendicular		Δθ	-3.0	-	3.0	°

¹ T_c : Case temperature

² Initial value, CW (Continuous Wave) drive

³ Angle at 50% peak intensity (full-width at half-maximum)

⁴ Parallel to the junction plane (X-Z plane)

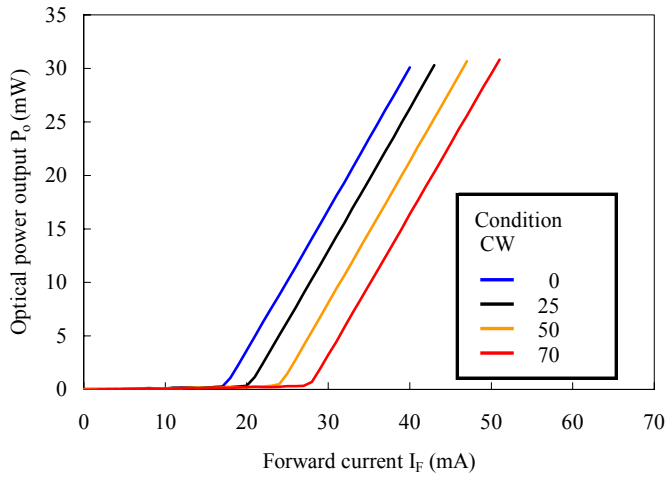
Perpendicular to the junction plane (Y-Z plane)

(Notice)

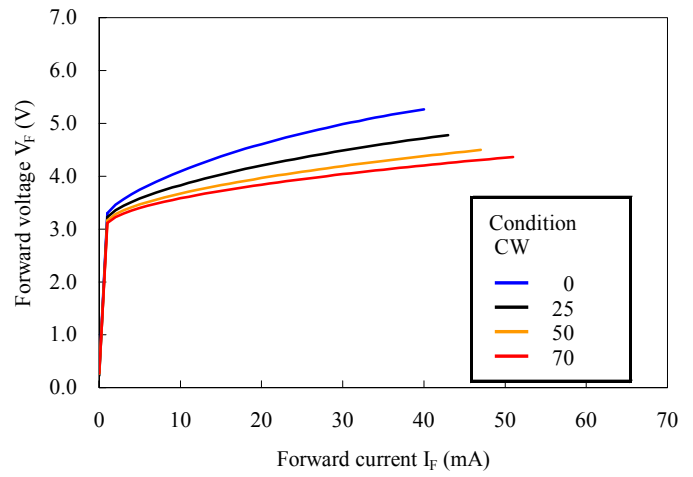
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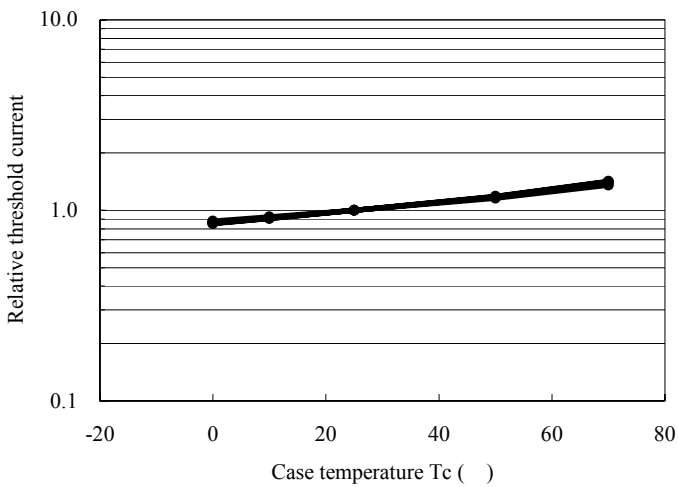
Optical power output – Forward current



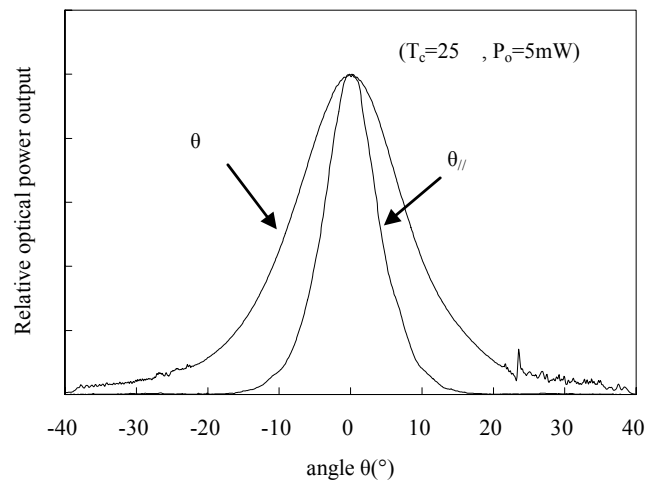
Forward voltage – Forward current



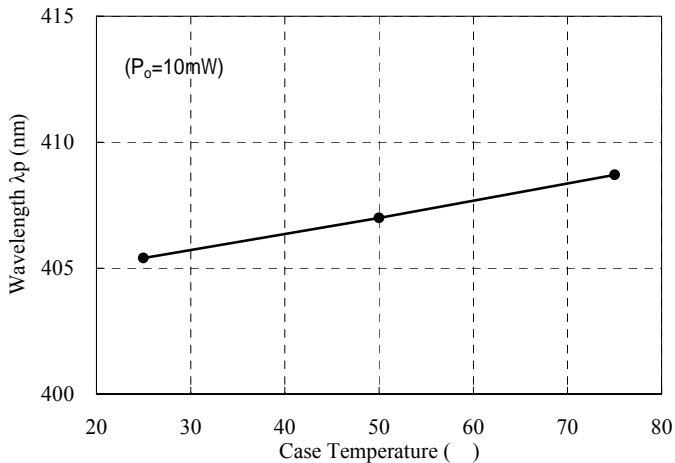
Case temperature dependence of threshold current



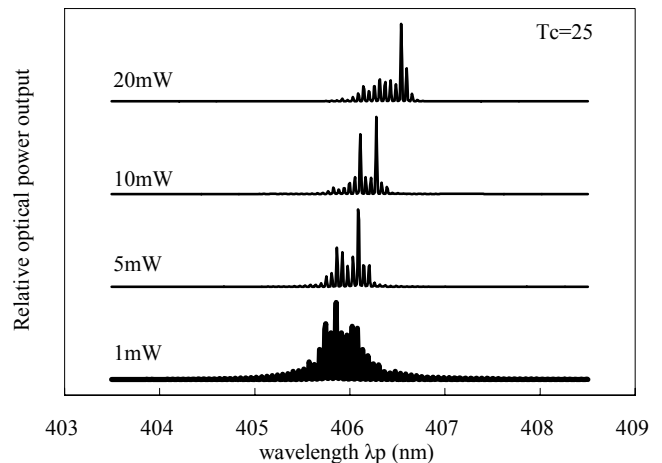
Far field pattern (FFP)



Case temperature dependence of wavelength



Optical power dependence of Lasing spectrum



Note) Characteristics shown in diagrams are typical values.(not assurance value)

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(Precautions)

- (1) 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 (2) or (3), please be sure to observe the precautions given in those respective paragraphs.

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* Transportation control and safety equipment (aircraft, train, automobile etc.)
* Traffic signals * Gas leakage sensor breakers * Rescue and security equipment
* Other safety equipment

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

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

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