Under development	
New product	●

GH04P21A2GE

Blue violet Laser Diode

High Power Blue violet Laser Diode

■ Features

(1) Wavelength : 406 nm(Typ.)

(2) Optical power output :

CW 105mW (Max)

Pulse 210mW (Max)

(3) Φ5.6mm CAN package

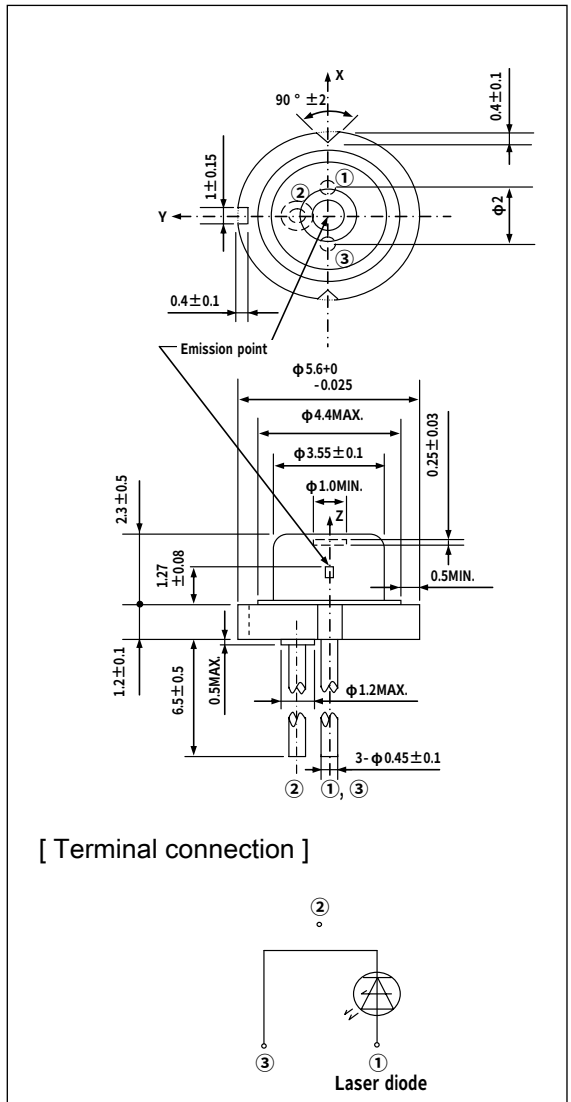
■ Applications

(1) Blu-ray Disc/HD DVD drive

(2) other new application

■ Outline Dimensions

(Unit：mm)



[Terminal connection]

■ Absolute Maximum Ratings

(Tc=25℃※1)

	Parameter		Symbol	Ratings	unit
※2	Optical power output(CW)		P_o	105	mW
※3	Optical power output(Pulse)		P_p	210	mW
	Reverse voltage		V_{rl}	2	V
	Operatings temperature	CW ※2	$T_{opc(c)}$	-10～+70	℃
	(case temp.)	Pulse ※3	$T_{opp(c)}$	-10～+70	℃
	Storage temperature(case temp.)		T_{stg}	-40～+85	℃
※4	Soldering temperature		T_{sld}	350	℃

※1 T_c : Case temperature

※2 CW :Continuous Wave Operation

※3 Pulse :Pulse Operation(Pulse Width 50ns Duty:50%)

※4 Soldering position is 1.6mm apart from bottom edge of the case.
(Immersion time: 3s)

■ Specifications

(Tc=25℃※1 ※2)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	unit
Threshold current		Ith	-	-	40	60	mA
Operating current		Iop	Po=105mW	-	120	150	mA
Operating voltage		Vop		-	5.4	6.5	V
Wavelength		λp		400	406	413	nm
Half intensity angle ※3 ※4	Parallel	θ ∥		6	9	12	°
	Perpendicular	θ ⊥		16	19	22	°
Half intensity angle ※3 ※4	Parallel	θ ∥	Po=5mW	5.5	8.5	11.5	°
	Perpendicular	θ ⊥		16	19	22	°
Misalignment angle ※4	Parallel	Δθ ∥		-2.5	-	2.5	°
	Perpendicular	Δθ ⊥		-3.0	-	3.0	°
Differential efficiency		ηd	$\frac{95mW}{I(105mW)-I(10mW)}$	0.9	1.3	-	mW/mA
Kink (Pulse) ※5 ※6		K-LI	P1=42mW P2=126mW P3=210mW	-10	-	10	%

※1 T_c : Case temperature

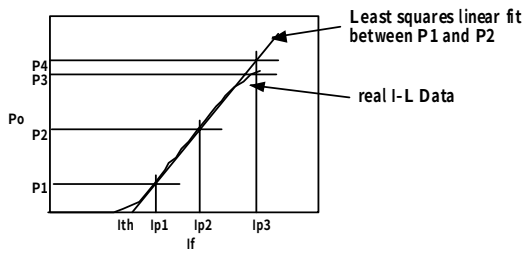
※2 Initial value, Continuous Wave Operation.

※3 Angle of 50% peak intensity.(Full angle at half-maximum)

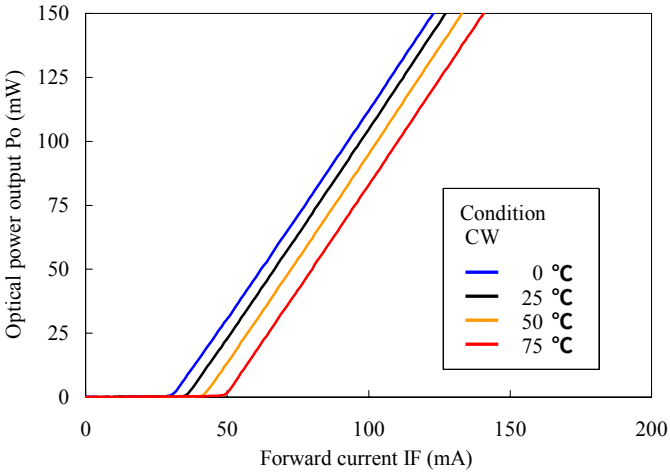
※4 Paralel to the junction plane.(X-Z plane)
Perpendicular to the junction plane.(Y-Z plane)

※5 Pulse :Pulse Operation(Pulse Width 50ns Duty:50%)

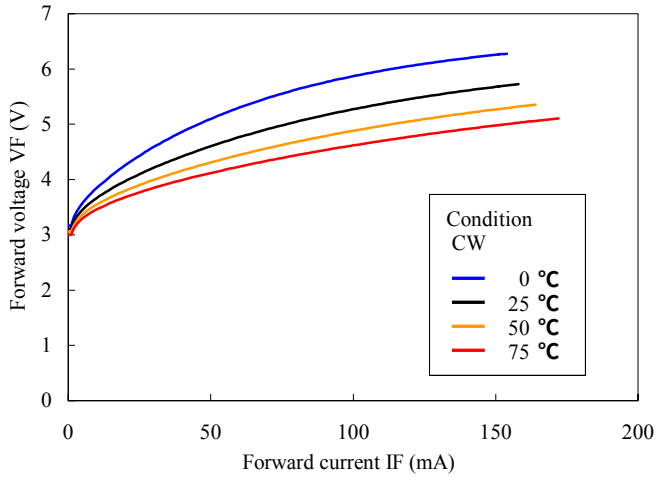
※6 Definition of Kink
:K-LI= (P4-P3)/P3



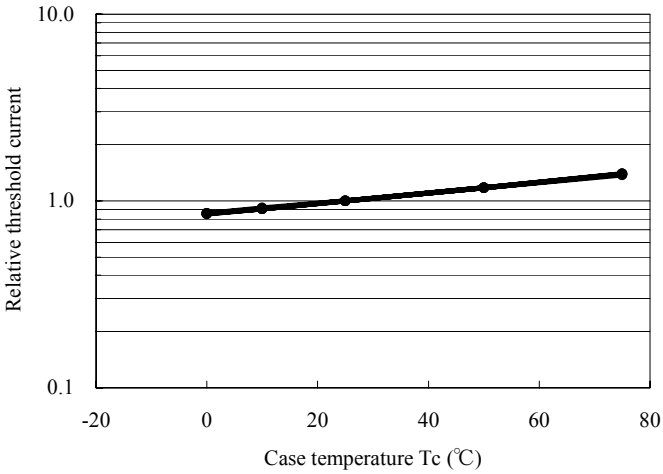
■ Optical power output – Forward current



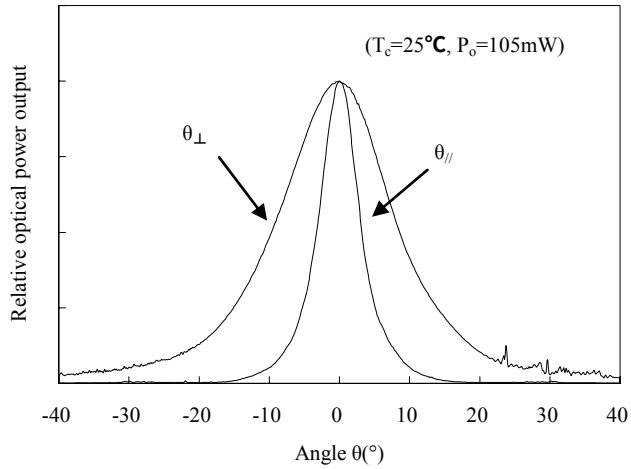
■ Forward voltage – Forward current



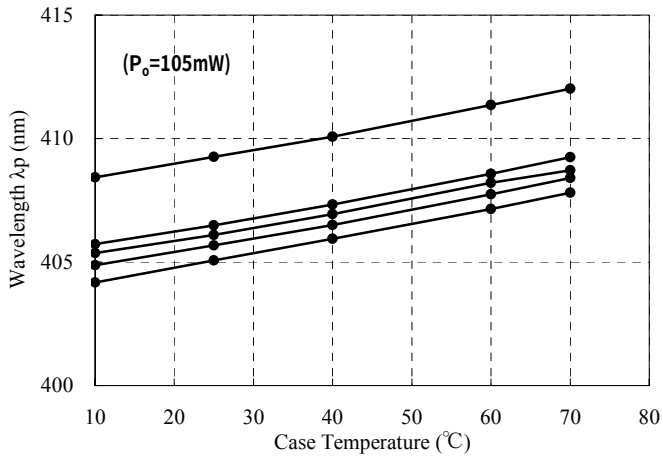
■ Case temperature dependence of threshold current



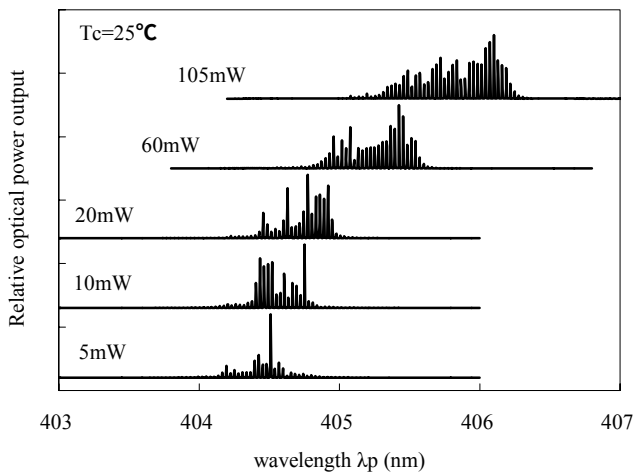
■ Far field pattern (FFP)



■ 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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   * Telecommunication equipment (Terminal) * Measuring equipment
   * Tooling machines * Computers]

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   * Traffic signals * Gas leakage sensor breakers * Rescue and security equipment
   * Other safety equipment]

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