

LCS406020M5X

Blue violet Laser Diode

Low Power Blue violet Laser Diode

■ Features

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

■ Applications

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

■ Absolute Maximum Ratings

($T_c=25^{\circ}\text{C}$ ※¹)

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

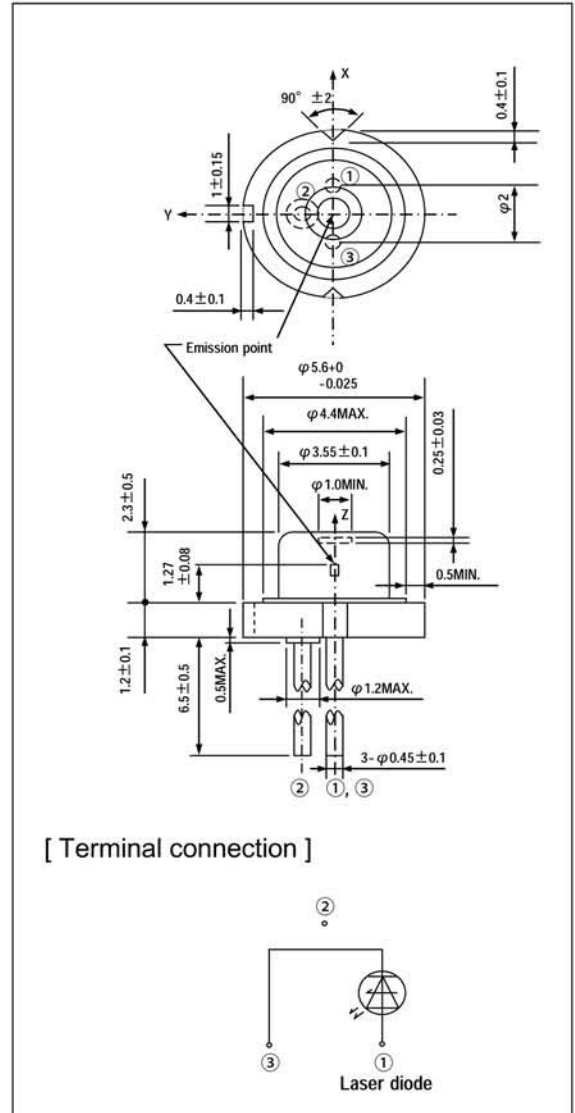
※¹ T_c : Case temperature

※² CW(Continuous Wave) drive

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

■ Outline Dimensions

(Unit :mm)



■ Specifications

(T_c=25°C^{※1 ※2})

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

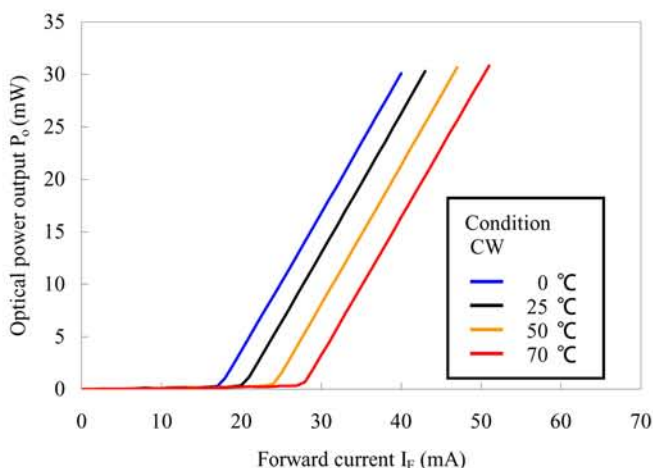
※4 Parallel to the junction plane (X-Z plane)

Perpendicular to the junction plane (Y-Z plane)

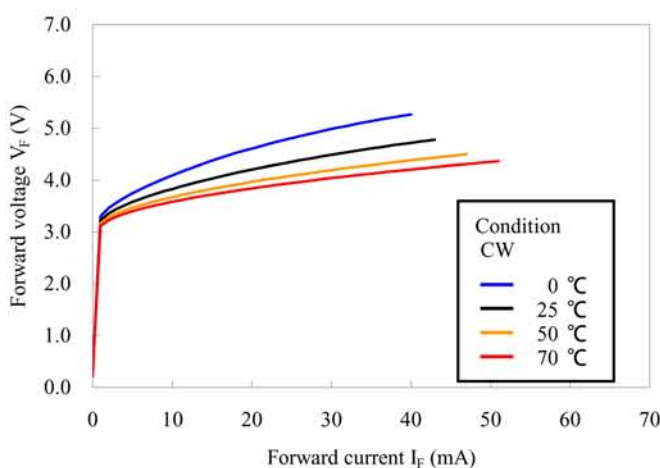
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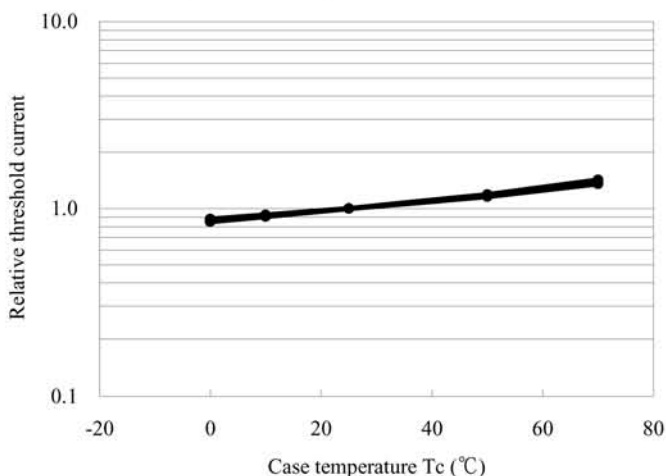
■ Optical power output – Forward current



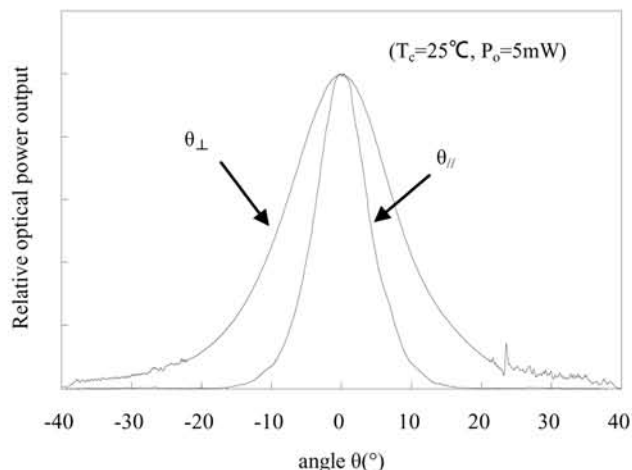
■ Forward voltage – Forward current



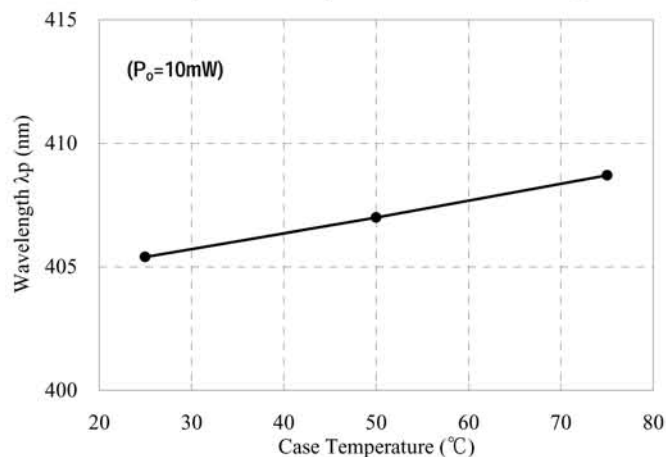
■ Case temperature dependence of threshold current



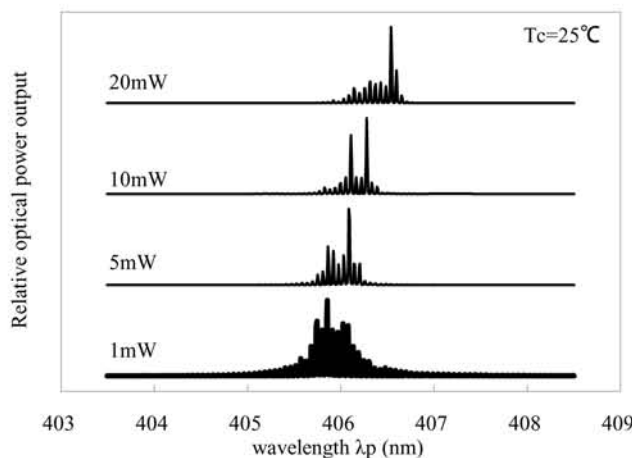
■ Far field pattern (FFP)



■ 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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