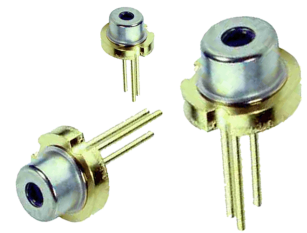


CS4051205X



406nm Compact Laser Diode Key features

Visible light $\lambda = 405\text{nm}$
 Output powers = 120mW
 Package type = 5.6mm Φ
 High reliability

Applications

Blu-ray Disc/HD DVD drive
 Other new application

Laser Diode Solutions

CS4051205X is a MOCVD grown 405nm band GaP laser diode. It's an attractive light source, with a typical light output power of CW 120mW. It's suitable for use as high reliability laser diode in a wide range of industrial application.

Electrical and Optical Characteristics at $T_c = 25^\circ\text{C}$

Item	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	Po	-	120	-	mW	Po=100mW
Threshold Current	Ith	-	35	50	mA	Po=100mW
Operating Current	Iop	-	100	115	mA	Po=100mW
Differential Efficiency	η	-	1.3	1.6	mW/mA	Po=100mW
Operating Voltage	Vop	-	4.8	5.5	V	Po=100mW
Peak Wavelength	λ_p	400	406	415	nm	Po=100mW
Beam Divergence	$\Theta_{//}$	6.0	9	14	deg	Po=100mW
	Θ_{\perp}	16	20	24	deg	Po=100mW
Beam Angle	$\Delta\Theta_{//}$	-3	-	3	deg	Po=100mW
	$\Delta\Theta_{\perp}$	-3	-	3	deg	Po=100mW

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

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

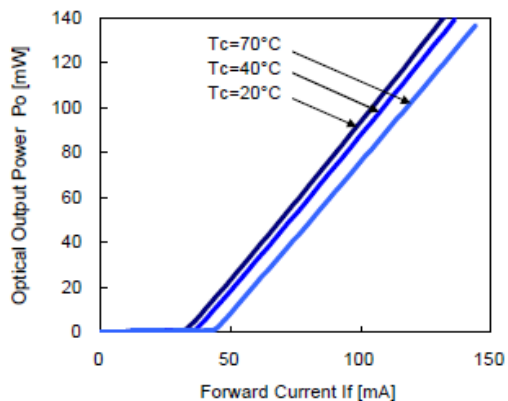
Perpendicular to the junction plane (Y-Z plane)

Absolute Maximum Rating at $T_c=25^\circ\text{C}$

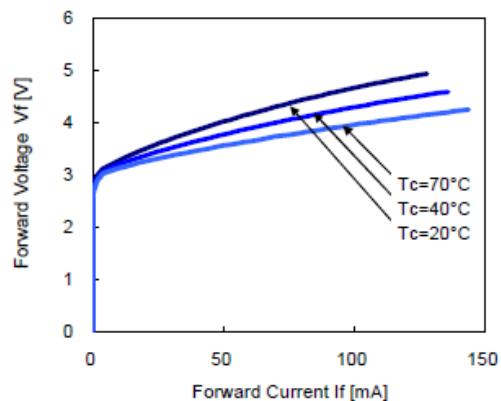
Items	Symbols	Values	Unit
Optical Output Power	P_o	120	mW
Laser Diode Reverse Voltage	V	5	V
Operating Temperature	T_o	-0~+70	$^\circ\text{C}$
Storage Temperature	T_s	-40~+85	$^\circ\text{C}$

Typical Characteristics

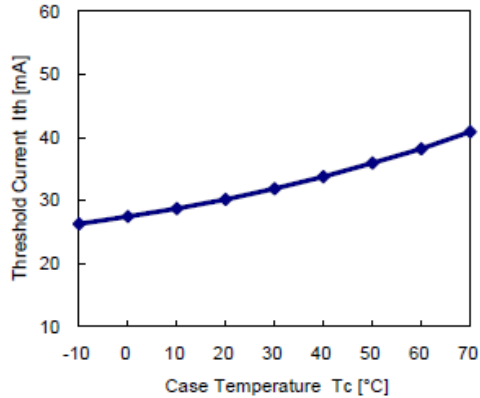
◆ Optical Output Power vs. Forward Current



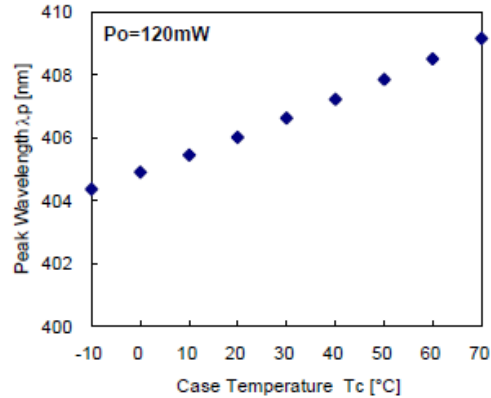
◆ Forward Voltage vs. Forward Current



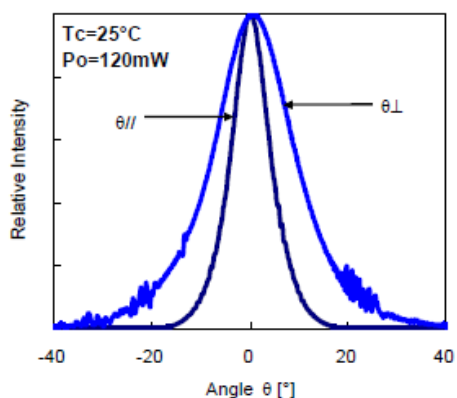
◆ Threshold Current vs. Case Temperature



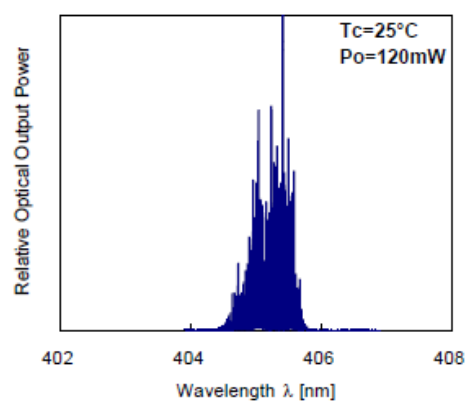
◆ Peak Wavelength vs. Case Temperature



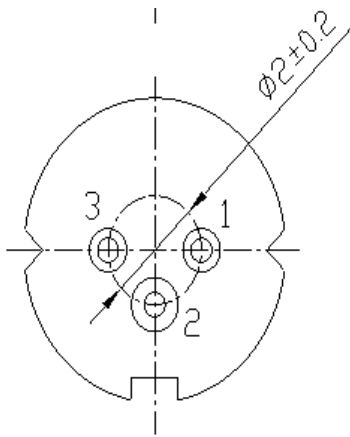
◆ Far Field Pattern



◆ Typical Spectrum

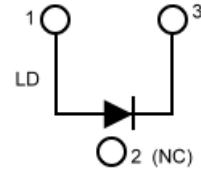


Electrical Connection



Bottom View

Package Type



Z type

Laser Diode Package Drawing

