

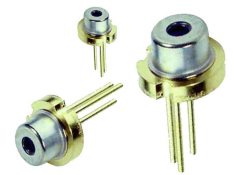
CS4052003x

405nm Compact Laser Diode Modules Key features

Visible light $\lambda = 405\text{nm}$
 Output powers $\approx 200\text{mW}$
 Package type $= 3.8\text{mm}\Phi$
 High reliability

Applications

Blue-ray Disc/HD DVD drive
 Other new application



Laser Diode Solutions

CS4052003x is a 405nm band laser diode. It's an attractive light source, with a typical light output power of CW 200mW. 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	-	-	100	mW	-
Threshold Current	Ith	-	35	50	mA	-
Operating Current	Iop	-	100	130	mA	Po=100mW
Slope Efficiency	η	1.1	1.4	1.9	W/A	CW
Operating Voltage	Vop	-	4.6	5.5	V	Po=100mW
Peak Wavelength	λ_p	400	405	410	nm	Po=100mW
Beam Divergence	$\Theta_{//}$	7	9	12	deg	Po=100mW
	Θ_{\perp}	15	19.5	23	deg	
Beam Angle	$\Delta\Theta_{//}$	-2	-	2	deg	Po=100mW
	$\Delta\Theta_{\perp}$	-2.5	-	2.5	deg	

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

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

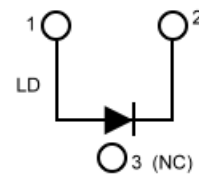
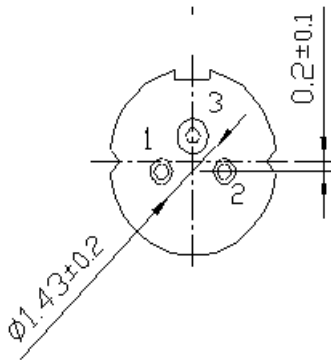
Perpendicular to the junction plane (Y-Z plane)

Absolute Maximum Rating at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	Po	200	mW
	Pulse	400	mW
Laser Diode Reverse Voltage	Vr	2	V
Operating Temperature	Topr	-10~+80	°C
Storage Temperature	Tstg	-40~+85	°C

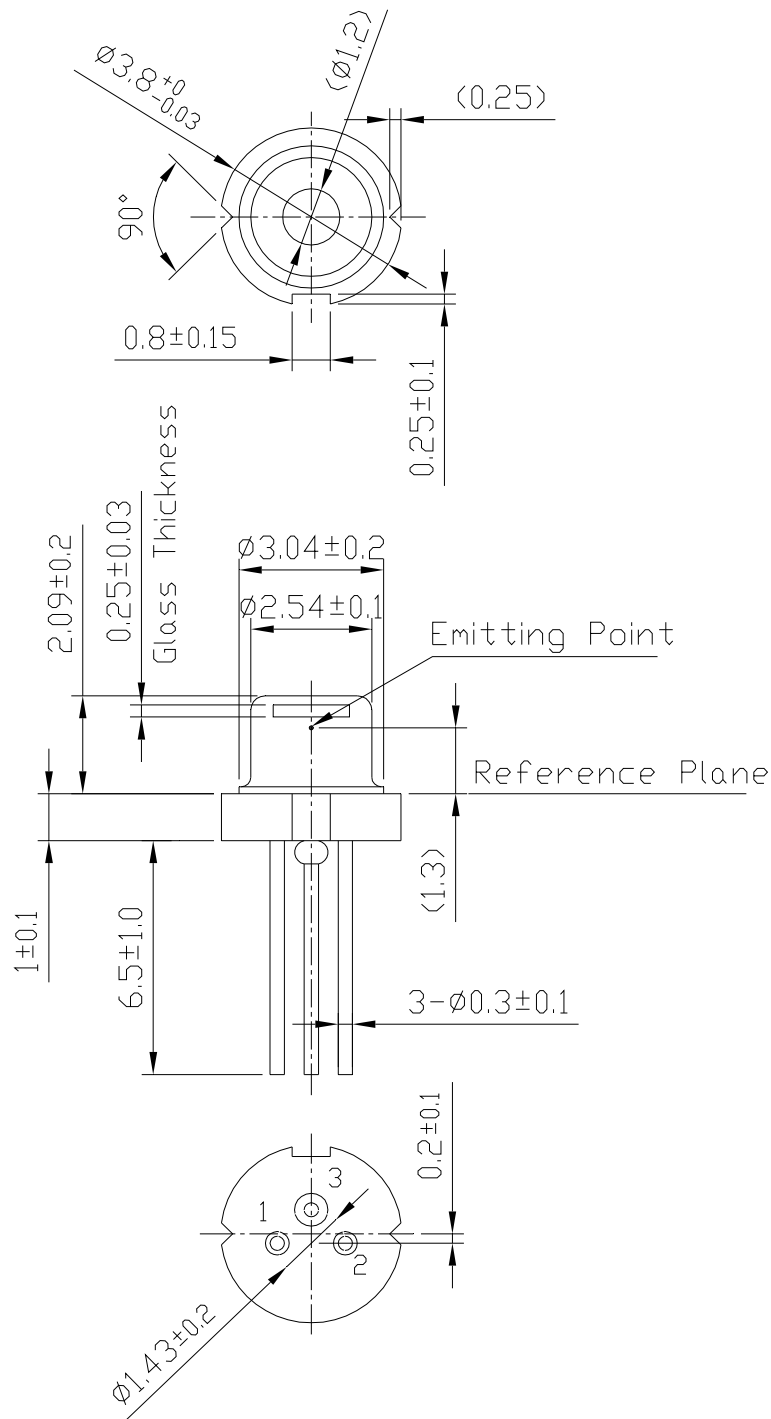
Electrical Connection

Package Type



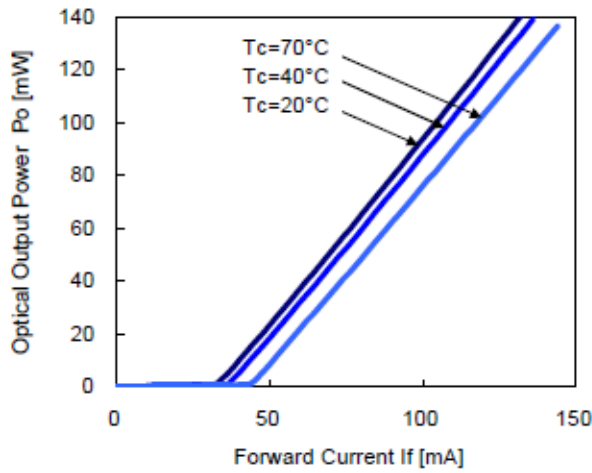
X type

Laser Diode Package Drawing

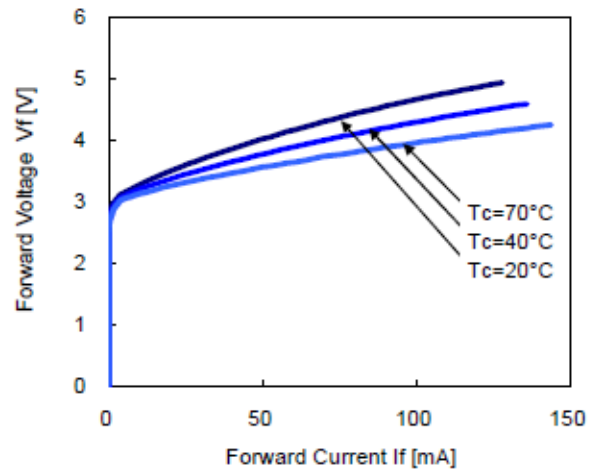


Typical Characteristics

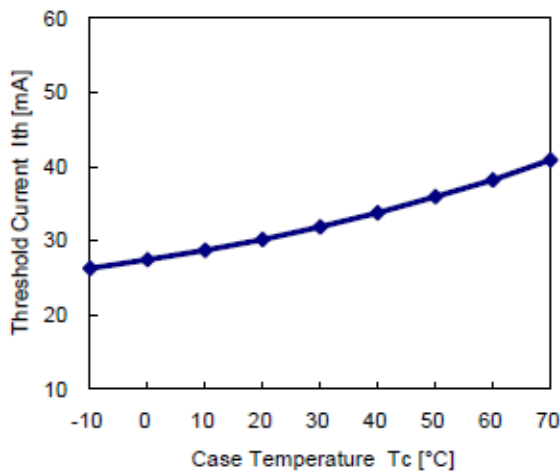
◆ Optical Output Power vs. Forward Current



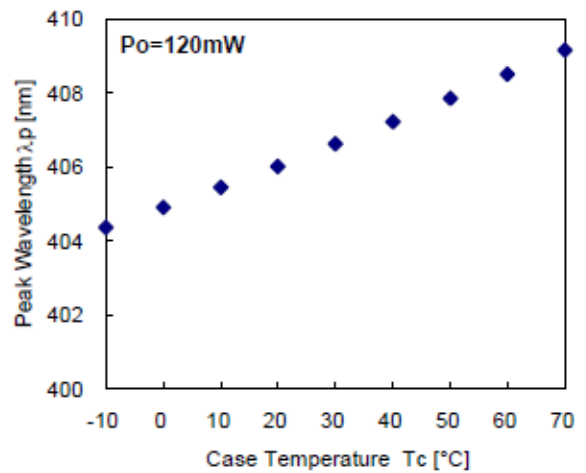
◆ Forward Voltage vs. Forward Current



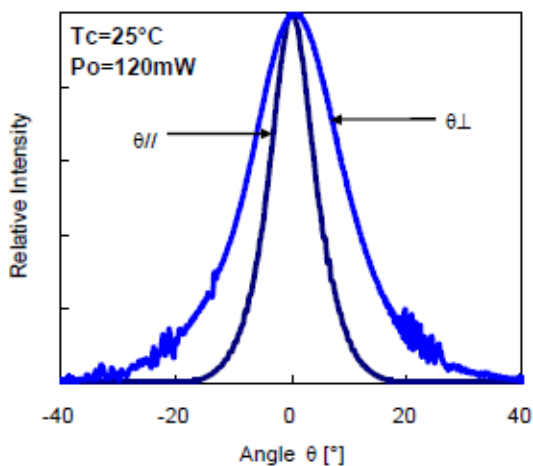
◆ Threshold Current vs. Case Temperature



◆ Peak Wavelength vs. Case Temperature



◆ Far Field Pattern



◆ Typical Spectrum

