THORLABS INC
435 Route 206 • P.O. Box 366
Newton, NJ 07860-0366

SALES 973-579-7227
FAX 973-300-3600

GH06510B2A
Red Laser Diode

■ Features

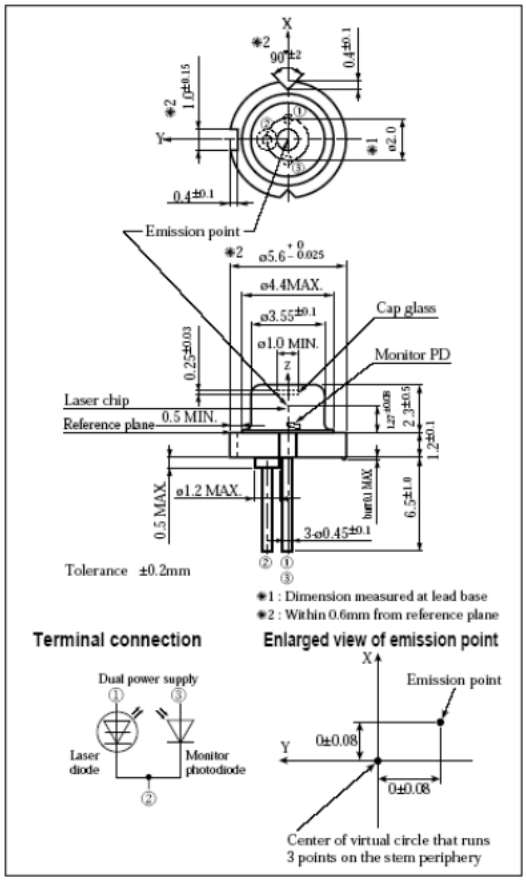
(1) Maximum optical power output : 10mW CW
(2) Wavelength : TYP. 654nm
(3) Low current drive type (Iop : 40mA)
(4) ϕ5.6mm package

■ Applications

(1) DVD-ROM drives
(2) DVD video drives

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Tc=25˚C ✱1)

Parameter		Symbol	Rating	Unit
Optical power output		Po	10	mW
Reverse voltage	Laser	Vrl	2	V
	Monitor photodiode	Vrd	30	V
✱1 Operating temperature		Top(c)	-10 to +70	˚C
Storage temperature		Tstg	-40 to +85	˚C
✱2 Soldering temperature		Tsld	260	˚C

✱1 Case temperature
✱2 At the position of 1.6mm or more from the lead base (5s)

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■ Electro-optical Characteristics*1

(Tc=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	–	-	30	45	mA
Operating current		I_{op}	Po=7mW	-	40	55	mA
Operating voltage		V_{op}		-	2.2	2.5	V
Wavelength		λ_p		640	654	660	nm
Half intensity angle	*2*3 Parallel	θ//		7	8.5	10	°
	*2*3 Perpendicular	θ⊥		24	29	33	°
*4 Ripple		R_I		-	-	±20	%
Misalignment angle	*3 Parallel	Δθ//		-	-	±2	°
	*3 Perpendicular	Δθ⊥		-	-	±3	°
Differential efficiency		η_d	$\frac{5mW}{I(7mW)-I(2mW)}$	0.38	0.7	1.05	mW/mA
Interference pattern intensity		α	Po=7mW	-	-	1	-

*1 Initial value, CW (Continuous Wave) drive
*2 Angle at 50% peak intensity (full-width at half-maximum)
*3 Parallel to junction plane (X-Z plane), Perpendicular to the junction plane (Y-Z plane)
*4 $R_I=\Delta P/P$ ΔP : the maximum deviation of the far field pattern from its approximate curve P : the peak of the approximate curve

■ Electrical Characteristics of Photodiode

(Tc=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	P_O=7mW, V_{rd}=5V	0.08	0.2	0.4	mA
Dark current	I_D	V_{rd}=5V	-	-	150	nA
Terminal capacitance	Ct	V_{rd}=5V, f=1MHz	-	3.5	-	pF