

GH0781RA2C

High Power Laser Diode for MAX. X48
Speed CD-R Drive(784nm-Pulse 225mW)

■ Features

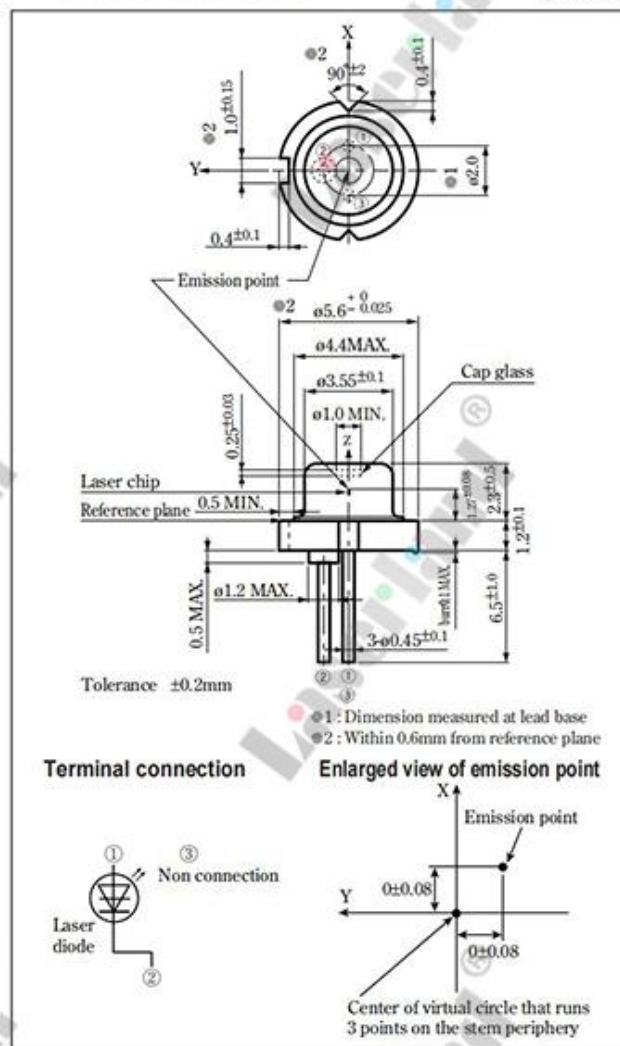
- (1) Maximum optical power output : 120mW (CW)
- (2) High power (pulse MAX. 225mW), MAX. ×48 speed writing
- (3) High coupling efficiency.
The ellipticity ($\theta_{\perp}/\theta_{//}$) is close to 1.
- (4) Wavelength : TYP. 784nm
- (5) $\phi 5.6$ mm package

■ Applications

- (1) CD-R drives
- (2) CD-RW drives

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Tc=25°C *)

Parameter	Symbol	Rating	Unit
$\phi 3$ Optical power output	Po	120	mW
$\phi 2$ Optical power output (pulse)	Pp	225	mW
Reverse voltage	Vr	2	V
$\phi 1$ Operating temperature	$\phi 3$ CW	T _{opc(c)}	-10 to +65 °C
	$\phi 2$ Pulse	T _{opp(c)}	-10 to +75 °C
Storage temperature	T _{stg}	-40 to +85	°C
$\phi 4$ Soldering temperature	T _{sld}	300	°C

*1 Case temperature

*2 Pulse width : 0.1μs, Duty : 50%

*3 CW (Continuous Wave) drive

*4 At the position of 1.6mm or more from the lead base (Within 3s)

■ Electro-optical Characteristics^①

(T_c=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current	I _{th}	—	-	30	40	mA
Operating current	I _{op}	P _o =100mW	-	141	167	mA
Operating voltage	V _{op}		-	2.1	2.5	V
Wavelength	λ _p		780	784	787	nm
Half intensity angle	②③ Parallel		7.8	8.7	9.8	°
	②③ Perpendicular		14.5	16	17.5	°
④ Ripple	R _i		-20	-	+20	%
Misalignment angle	③ Parallel		-1.5	-	+1.5	°
	③ Perpendicular		-2.5	-	+2.5	°
Differential efficiency	η _d	$\frac{70\text{mW}}{I(100\text{mW})-I(30\text{mW})}$	0.8	1.0	1.3	mW/mA
Interference pattern intensity	α	P _o =100mW	-	-	1	-
⑤ Kink	K-LI	P1=45mW, P2=135mW, P3=225mW	-	-	10	%
Polarization ratio	P _i	P _o =3mW, NA=0.13	20	-	-	-

① Initial value, CW (Continuous Wave) drive

② Angle at 50% peak intensity (full-width at half-maximum)

③ Parallel to the junction plane (X-Z plane)

Perpendicular to the junction plane (Y-Z plane)

④ R_i=ΔP/P ΔP : the maximum deviation of the far field pattern from its approximate curve P : the peak of the approximate curve

⑤ Pulse drive (Pulse width : 0.1μs, Duty : 50%)