

# GH0780MA2C

High Power Laser Diode for MAX. X40  
Speed CD-R Drive(784nm-pulse 200mW)

## ■ Features

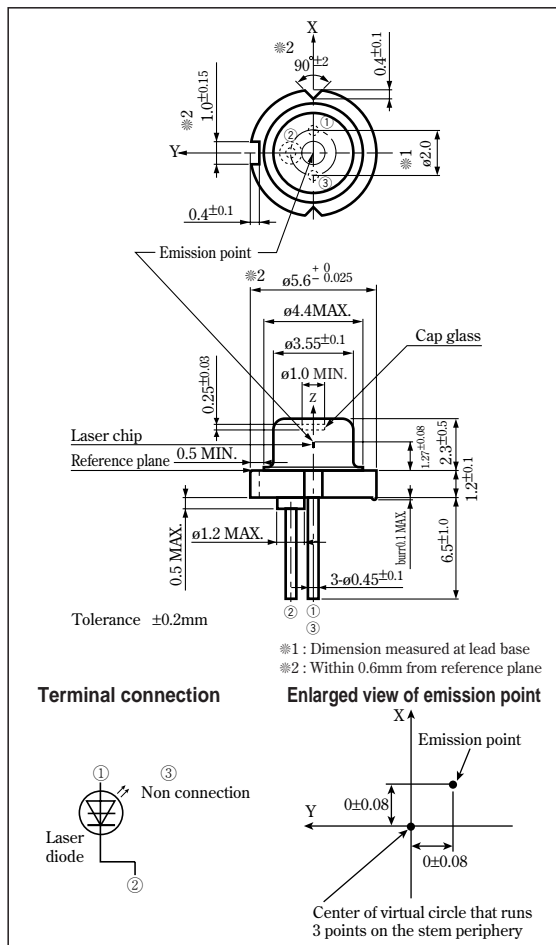
- (1) Maximum optical power output : 100mW (CW)
- (2) High power (pulse MAX. 200mW), MAX. X40 speed writing
- (3) High coupling efficiency.  
The ellipticity ( $\theta_{\perp}/\theta_{//}$ ) is close to 1.
- (4) Wavelength : TYP. 784nm
- (5)  $\phi 5.6$ mm package

## ■ Applications

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

## ■ Outline Dimensions

(Unit : mm)



## ■ Absolute Maximum Ratings

(Tc=25°C ※1)

Parameter		Symbol	Rating	Unit
※3	Optical power output	P <sub>O</sub>	100	mW
※2	Optical power output (pulse)	P <sub>P</sub>	200	mW
Reverse voltage		V <sub>rl</sub>	2	V
※1	Operating temperature	T <sub>opc(c)</sub>	-10 to +65	°C
	※2 Pulse	T <sub>opp(c)</sub>	-10 to +75	°C
Storage temperature		T <sub>stg</sub>	-40 to +85	°C
※4	Soldering temperature	T <sub>sld</sub>	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)

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■ Electro-optical Characteristics<sup>※1</sup>

(T<sub>c</sub>=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I <sub>th</sub>	—	-	30	40	mA
Operating current		I <sub>op</sub>	P <sub>o</sub> =90mW	-	120	152	mA
Operating voltage		V <sub>op</sub>		-	2.1	2.5	V
Wavelength		λ <sub>p</sub>		780	784	787	nm
Half intensity angle	<sup>※2</sup> <sup>※3</sup> Parallel	θ//		7.8	8.7	9.8	°
	<sup>※2</sup> <sup>※3</sup> Perpendicular	θ⊥		14.5	16	17.5	°
<sup>※4</sup> Ripple		R <sub>i</sub>		-20	-	+20	%
Misalignment angle	<sup>※3</sup> Parallel	Δθ//		-1.5	-	+1.5	°
	<sup>※3</sup> Perpendicular	Δθ⊥		-2.5	-	+2.5	°
Differential efficiency		η <sub>d</sub>	$\frac{60\text{mW}}{I(90\text{mW})-I(30\text{mW})}$	0.8	1.0	1.3	mW/mA
Interference pattern intensity		α	P <sub>o</sub> =90mW	-	-	1	-
<sup>※5</sup> Kink		K-LI	P1=40mW, P2=120mW, P3=200mW	-	-	10	%
Polarization ratio		P <sub>i</sub>	P <sub>o</sub> =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=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%)

• Please refer to the chapter "Handling Precautions"

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