GH0780MA4C

(Under development)

ø3.3mm High Power Laser Diode for MAX. ×40 Speed CD-R Drive(784nm-Pulse 200mW)

■ Features

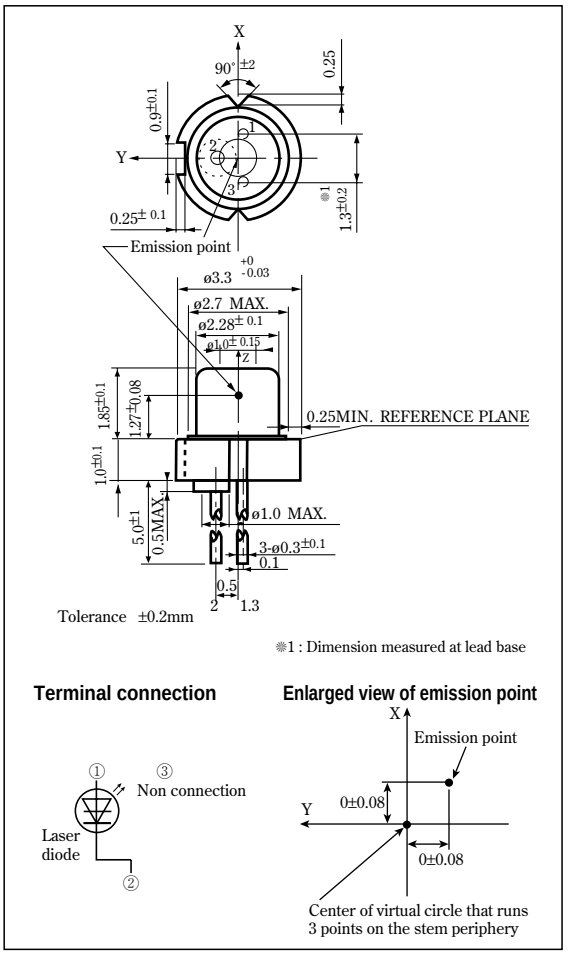
(1) Maximum optical power output : 100mW (CW)
(2) High power (pulse MAX. 200mW), MAX. ×40 speed writing
(3) High coupling efficiency.
The ellipticity (θ⊥/θ//) is close to 1.
(4) Wavelength : TYP. 784nm
(5) Small ϕ3.3mm package

■ 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_O	100	mW
※2 Optical power output (pulse)		P_p	200	mW
Reverse voltage	Laser	V_{rl}	2	V
※1 Operating temperature	※3 CW	$T_{opc(c)}$	-10 to +65	°C
	※2 Pulse	$T_{opp(c)}$	-10 to +75	°C
Storage temperature		T_{stg}	-40 to +85	°C
※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

(Tc=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	–	-	30	40	mA
Operating current		I_{op}	Po=90mW	-	120	152	mA
Operating voltage		V_{op}		-	2.1	2.5	V
Wavelength		λ_p		780	784	787	nm
Half intensity angle	※2※3 Parallel	θ//		7.8	8.7	9.8	˚
	※2※3 Perpendicular	θ⊥		14.5	16	17.5	˚
※4 Ripple		R_l		-20	-	+20	%
Misalignment angle	※3 Parallel	Δθ//		-1.5	-	+1.5	˚
	※3 Perpendicular	Δθ⊥		-2.5	-	+2.5	˚
Differential efficiency		η_d	$\frac{60mW}{I(90mW)-I(30mW)}$	0.8	1.0	1.3	mW/mA
Interference pattern intensity		α	Po=90mW	-	-	1	-
※5 Kink		K-LI	P1=40mW, P2=120mW, P3=200mW	-	-	10	%
Polarization ratio		P_l	Po=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 $R_l=\Delta P/P$ 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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  - Office automation equipment
  - Telecommunication equipment [terminal]
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  - Industrial control
  - Audio visual equipment
  - Consumer electronics

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  - Alarm equipment
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