GH07885D2C

Narrow Radiation Angle, High Power Laser Diode for ×12 Speed CD-R Drive(784nm-85mW)

■ Features

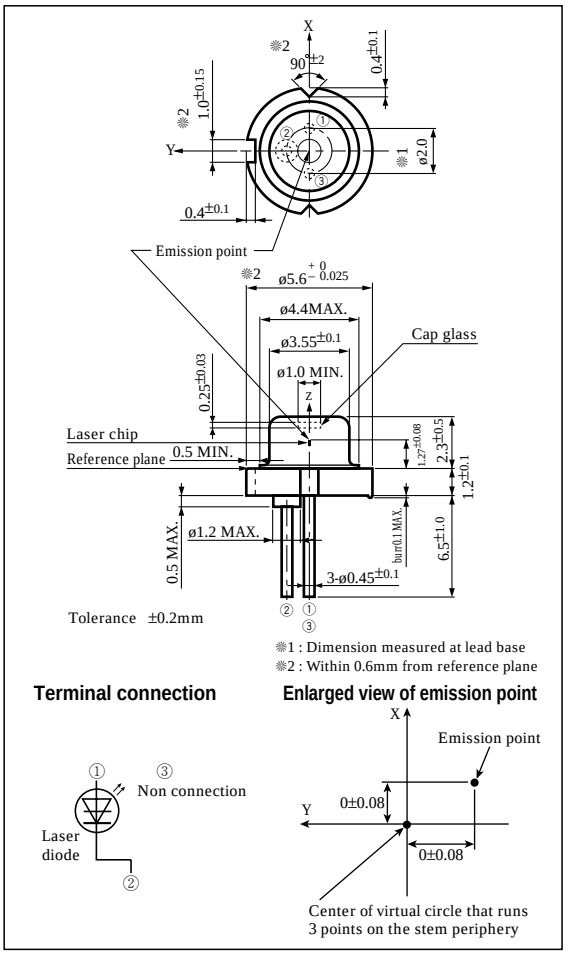
(1) Maximum optical power output : 85mW CW
(2) High power (pulse 120mW), ×10 to ×12 speed writing
(3) Wavelength : TYP. 784nm
(4) High coupling efficiency
The ellipticity (θ//θ⊥) is close to 1.
(5) ϕ5.6mm package

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(T_C=25˚C ※1)

Parameter		Symbol	Rating	Unit
Optical power output		P_O	85	mW
※2 Optical power output (pulse)		P_p	120	
Reverse voltage	Laser	V_{rl}	2	V
※1 Operating temperature	※3 CW	$T_{opc(c)}$	-10 to +65	˚C
	※2 Pulse	$T_{opp(p)}$	-10 to +70	˚C
Storage temperature		T_{stg}	-40 to +85	˚C
※4 Soldering temperature		T_{sld}	260	˚C

※1 Case temperature
※2 Pulse width : 0.5μs, Duty : 50%
※3 CW (Continuous Wave) drive
※4 At the position of 1.6mm or more from the lead base (Within 5s)

■ 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=70mW	-	110	135	mA
Operating voltage		V_{op}		-	1.95	2.5	V
Wavelength		λ_p		780	784	787	nm
Half intensity angle	※2※3 Parallel	θ//		8	9	10	°
	※2※3 Perpendicular	θ⊥		15	17	19	
※4 Ripple		R_I		-	-	±20	%
Misalignment angle	※3 Parallel	Δθ//		-	-	±1.5	°
	※3 Perpendicular	Δθ⊥		-	-	±2.5	°
Differential efficiency		η_d	$\frac{45mW}{I(70mW)-I(25mW)}$	0.7	0.9	1.2	mW/mA
Interference pattern intensity		α	Po=70mW	-	-	1	-
※5 Kink		K-LI	P1=24mW, P2=72mW, P3=120mW	-	-	10	%

※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

※5 Pulse drive (Pulse width : 0.5μs, Duty : 50%)

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