

GH30507T2A

(Under development)

■ Features

- (1) Monolithic dual-wavelength laser diode
- (2) Employing a self-pulsation laser chip enables a compact and low cost pick-up.
It eliminates the need for radio frequency modulation circuit and related resistors/shields.
- (3) Wavelength (MAX.) : TYP. 788nm/654nm
- (4) Optical power output (MAX.) : 7mW/5mW (CW)
- (5) High emitting point accuracy by monolithic structure ($110 \pm 3 \mu\text{m}$)
- (6) Operating temperature : MAX. 70°C
- (7) $\phi 5.6\text{mm}$ package (4 - lead)

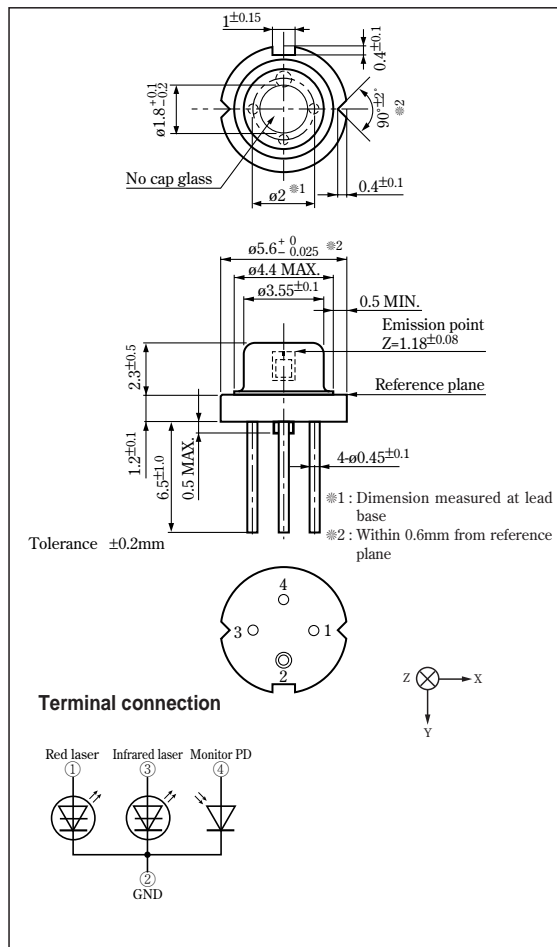
■ Applications

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

Self-pulsation Type Dual-wavelength Laser Diode for DVD-ROM/DVD Video(654nm-5mW, 788nm-7mW)

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

($T_c = 25^\circ\text{C}$ *1)

Parameter	Symbol	Rating		Unit
		Red laser	Infrared laser	
*3 Optical power output	P_O	5	7	mW
Reverse voltage	Laser V_{rl}	2		V
	Monitor photodiode V_{rd}	30		V
*1 Operating temperature	$T_{op(c)}$	-10 to +70		°C
*1 Storage temperature	T_{stg}	-40 to +85		°C
*2 Soldering temperature	T_{slid}	300		°C

*1 Case temperature

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

*3 CW (Continuous Wave) drive

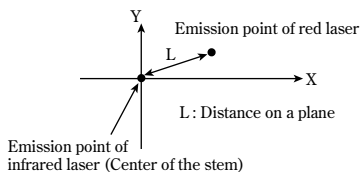
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Distance between Laser Emission Points and Emission Point Accuracy

Distance between laser emission points

Unit : μm

	MIN.	TYP.	MAX.
L	107	110	113



Emission point accuracy

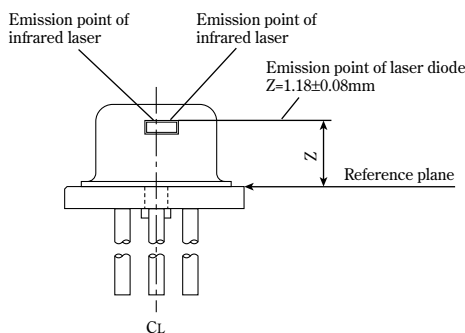
Unit : μm

X #1	0 \pm 80
Y #2	0 \pm 80
Z #3	1.18 \pm 80

#1 Emission point position of infrared laser to the stem center(X direction)

#2 Emission point position of infrared laser to the stem center(Y direction)

#3 Emission point position of laser to the reference plane (Z)



Electro-optical Characteristics*1

(Tc=25°C)

Parameter	Symbol	Red laser				Infrared laser				Unit
		Conditions	MIN.	TYP.	MAX.	Conditions	MIN.	TYP.	MAX.	
Threshold current	I _{th}	-	-	45	-	-	-	34	-	mA
Operating current	I _{op}	Po=5mW	-	55	-	Po=5mW	-	44	-	mA
Operating voltage	V _{op}		-	2.2	2.5		-	1.9	-	V
Wavelength	λ_p		-	654	-		-	788	-	nm
Half intensity angle	#2#3 Parallel $\theta_{//}$		-	8.5	-		-	14	-	°
	#2#3 Perpendicular θ_{\perp}		-	35	-		-	38	-	°
Misalignment angle	#3 Parallel $\Delta\theta_{//}$		-1.5	0	+1.5		-1.5	0	+1.5	°
	#3 Perpendicular $\Delta\theta_{\perp}$	-2	0	+2	-3	0	+3	°		
Differential efficiency	η_d	3mW I(5mW)-I(2mW)	-	0.5	-	3mW I(5mW)-I(2mW)	-	0.55	-	mW/mA
Interference pattern intensity	α	Po=5mW	-	-	0.9	Po=5mW	-	-	0.99	-

*1 Initial value, CW (Continuous Wave) drive

*3 Parallel to the junction plane (X-Z plane), Perpendicular to the junction plane (Y-Z plane)

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

*4 R= $\Delta P/P$ 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	Red laser				Infrared laser				Unit
		Conditions	MIN.	TYP.	MAX.	Conditions	MIN.	TYP.	MAX.	
Dark current	I _D	V _{rd} =5V	-	-	150	V _{rd} =5V	-	-	150	nA

• Please refer to the chapter "Handling Precautions"

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