GH06510B2A/GH06510B2B

Red Laser Diode for DVD-ROM Drive(654nm-10mW)

■ Features

(1) Maximum optical power output : 10mW (CW)
(2) Wavelength : TYP. 654nm
(3) Low current drive type (Iop : 40mA)
(4) φ5.6mm package

■ Model No.
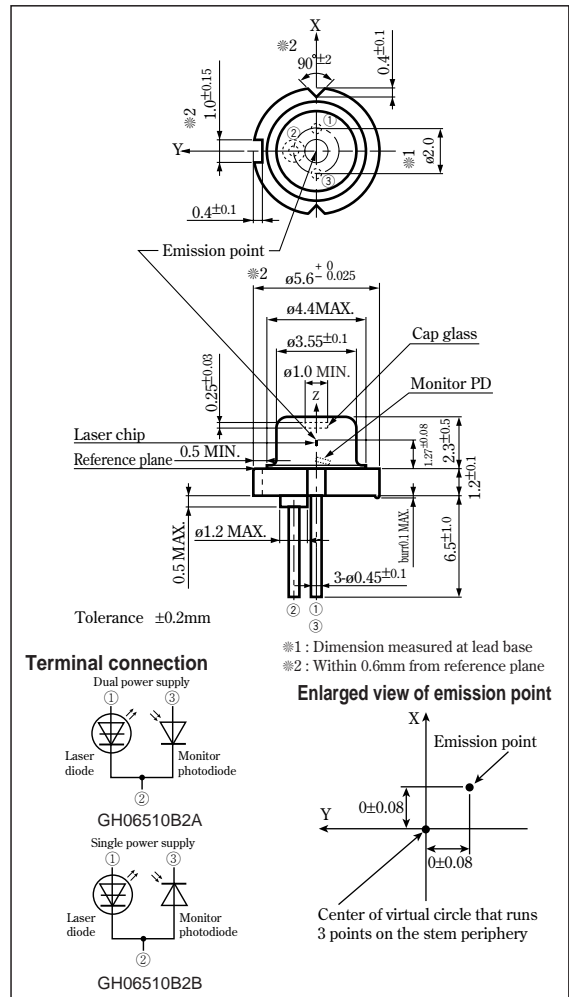
(1) GH06510B2A ....Dual power supply
(2) GH06510B2B ....Single power supply

■ Applications

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

■ Outline Dimensions

(Unit : mm)

Emission point

Cap glass

Monitor PD

Laser chip
Reference plane   0.5 MIN.

Tolerance ±0.2mm

3-ø0.45±0.1

※1 : Dimension measured at lead base
※2 : Within 0.6mm from reference plane

Terminal connection

Dual power supply

Laser diode   Monitor photodiode

GH06510B2A

Single power supply

Laser diode   Monitor photodiode

GH06510B2B

Enlarged view of emission point

Emission point

Center of virtual circle that runs 3 points on the stem periphery

■ Absolute Maximum Ratings

(Tc=25°C ※1)

Parameter		Symbol	Rating	Unit
※3 Optical power output		P_O	10	mW
Reverse voltage	Laser	V_{rl}	2	V
	Monitor photodiode	V_{rd}	30	V
※1 Operating temperature		$T_{op(c)}$	-10 to +70	°C
Storage temperature		T_{stg}	-40 to +85	°C
※2 Soldering temperature		T_{sld}	260	°C

※1 Case temperature
※2 At the position of 1.6mm or more from the lead base (5s)
※3 CW (Continuous Wave) drive

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■ Electro-optical Characteristics[※1]

(Tc=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	−	-	30	45	mA
Operating current		I_{op}		-	40	55	mA
Operating voltage		V_{op}		-	2.2	2.5	V
Wavelength		λ_p		640	654	660	nm
Half intensity angle	[※2][※3] Parallel	$\theta_{//}$	Po=7mW	7	8.5	10	°
	[※2][※3] Perpendicular	$\theta\perp$		24	29	33	°
[※4] Ripple		R_l		-20	-	+20	%
Misalignment angle	[※3] Parallel	$\Delta\theta_{//}$		-2	-	+2	°
	[※3] Perpendicular	$\Delta\theta\perp$		-3	-	+3	°
Differential efficiency		η_d	$\dfrac{5mW}{I(7mW)-I(2mW)}$	0.38	0.7	1.05	mW/mA
Interference pattern intensity		α	Po=7mW	-	-	1	-

[※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

■ Electrical Characteristics of Photodiode

(GH06510B2A)

(Tc=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=7mW, V_{rd}=5V	0.08	0.2	0.4	mA
Dark current	I_D	V_{rd}=5V	-	-	150	nA
Terminal capacitance	Ct	V_{rd}=5V, f=1MHz	-	3.5	-	pF

(GH06510B2B)

(Tc=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=7mW, V_{rd}=5V	0.03	0.08	0.15	mA
Dark current	I_D	V_{rd}=5V	-	-	150	nA
Terminal capacitance	Ct	V_{rd}=5V, f=1MHz	-	3.5	-	pF

• Please refer to the chapter "Handling Precautions"

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— Telecommunication equipment [terminal]
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— Industrial control
— Audio visual equipment
— Consumer electronics

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