

# GH06510B1A/GH06510B1B

## 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 (I<sub>op</sub> : 40mA)
- (4)  $\phi$ 5.6mm open package
- (5) Reasonable price

### ■ Model No.

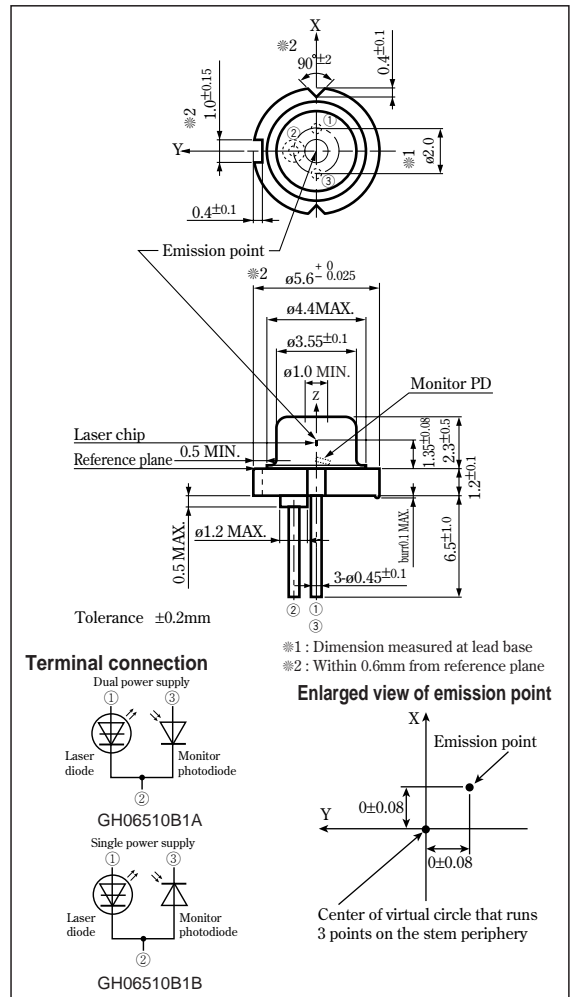
- (1) GH06510B1A ....Dual power supply
- (2) GH06510B1B ....Single power supply

### ■ Applications

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

### ■ Outline Dimensions

(Unit : mm)



### ■ Absolute Maximum Ratings

(T<sub>c</sub>=25°C<sup>※1</sup>)

Parameter	Symbol	Rating	Unit	
※3 Optical power output	P <sub>O</sub>	10	mW	
Reverse voltage	Laser	V <sub>rl</sub>	2	V
	Monitor photodiode	V <sub>rd</sub>	30	V
※1 Operating temperature	T <sub>op(c)</sub>	-10 to +70	°C	
Storage temperature	T <sub>stg</sub>	-40 to +85	°C	
※2 Soldering temperature	T <sub>sl</sub>	300	°C	

※1 Case temperature

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

※3 CW (Continuous Wave) drive

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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	45	mA	
Operating current	I <sub>op</sub>	P <sub>o</sub> =7mW	-	40	55	mA	
Operating voltage	V <sub>op</sub>		-	2.2	2.5	V	
Wavelength	λ <sub>p</sub>		640	654	660	nm	
Half intensity angle	<sup>#2#3</sup> Parallel		θ//	7	8.5	10	°
	<sup>#2#3</sup> Perpendicular		θ⊥	24	29	33	°
<sup>#4</sup> Ripple	R <sub>i</sub>		-20	-	+20	%	
Misalignment angle	<sup>#3</sup> Parallel		Δθ//	-2	-	+2	°
	<sup>#3</sup> Perpendicular		Δθ⊥	-3	-	+3	°
Differential efficiency	η <sub>d</sub>		$\frac{5\text{mW}}{I(7\text{mW})-I(2\text{mW})}$	0.38	0.7	1.05	mW/mA
Interference pattern intensity	α		P <sub>o</sub> =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<sub>i</sub>=ΔP/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

(GH06510B1A)

(T<sub>c</sub>=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I <sub>m</sub>	P <sub>o</sub> =7mW, V <sub>rd</sub> =5V	0.08	0.2	0.4	mA
Dark current	I <sub>D</sub>	V <sub>rd</sub> =5V	-	-	150	nA
Terminal capacitance	C <sub>t</sub>	V <sub>rd</sub> =5V, f=1MHz	-	3.5	-	pF

(GH06510B1B)

(T<sub>c</sub>=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I <sub>m</sub>	P <sub>o</sub> =7mW, V <sub>rd</sub> =5V	0.03	0.08	0.15	mA
Dark current	I <sub>D</sub>	V <sub>rd</sub> =5V	-	-	150	nA
Terminal capacitance	C <sub>t</sub>	V <sub>rd</sub> =5V, f=1MHz	-	3.5	-	pF

• Please refer to the chapter "Handling Precautions"

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