

# GH06550B2B1

## High Power Red Laser Diode for X2 Speed DVD Drive (656nm-pulse 70mW)

### ■ Features

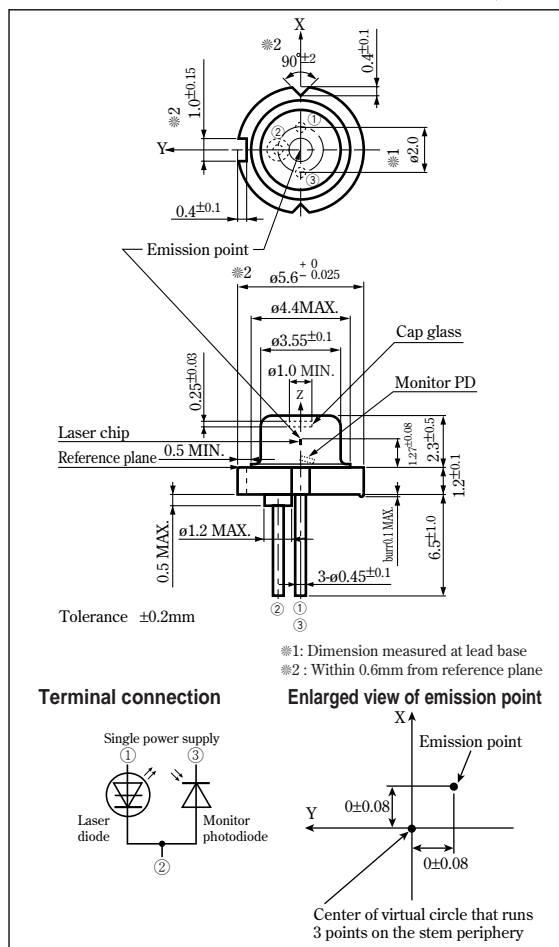
- (1) X2 speed DVD-R/+R/-RW/+RW/RAM drives
- (2) High power output (pulse MAX. 70mW)
- (3) Wavelength : TYP. 656nm
- (4) Operating temperature : MAX. 70°C
- (5) φ5.6mm package

### ■ Applications

- (1) DVD-R/+R drives
- (1) DVD-RW/+RW drives
- (2) DVD-RAM drives

### ■ 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>	50	mW
※2 Optical power output (pulse)	P <sub>p</sub>	70	mW
Reverse voltage	Laser	V <sub>rl</sub>	2 V
	Monitor photodiode	V <sub>rd</sub>	30 V
※1 Operating temperature	※3 CW	T <sub>opc(c)</sub>	-5 to +65 °C
	※2 Pulse	T <sub>opp(c)</sub>	-5 to +70 °C
Storage temperature	T <sub>stg</sub>	-40 to +85	°C
※4 Soldering temperature	T <sub>slid</sub>	300	°C

※1 Case temperature

※3 CW (Continuous Wave) drive

※2 Pulse width : 0.3μs, Duty : 50%

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

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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>	-	-	35	55	mA	
Operating current	I <sub>op</sub>	P <sub>o</sub> =45mW	-	80	100	mA	
Operating voltage	V <sub>op</sub>		-	2.6	2.95	V	
Wavelength	λ <sub>p</sub>		650	656	660	nm	
Half intensity angle	<sup>※2※3</sup> Parallel		θ//	6	8	10	°
	<sup>※2※3</sup> Perpendicular		θ⊥	19	22	25	°
<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>		$\frac{35mW}{I(45mW)-I(10mW)}$	0.75	1.0	-	mW/mA
Interference pattern intensity	α		P <sub>o</sub> =45mW	-	-	1	-
<sup>※5</sup> Kink	K-LI	P1=14mW, P2=42mW, P3=70mW	-10	-	+10	%	
Polarization angle	ω	P <sub>o</sub> =3mW, NA=0.13	-20	-	+20	°	
Polarization ratio	P <sub>i</sub>		20	-	-	-	

<sup>※1</sup> Initial value, CW (Continuous Wave) drive

<sup>※2</sup> Angle at 50% peak intensity (full-width at half-maximum)

<sup>※3</sup> Parallel to the junction plane (X-Z plane)

Perpendicular to the junction plane (Y-Z plane)

<sup>※4</sup> 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

<sup>※5</sup> Pulse drive (Pulse width : 0.3μs, Duty : 50%)

## ■ Electrical Characteristics of Photodiode

(T<sub>c</sub>=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I <sub>m</sub>	P <sub>o</sub> =45mW, V <sub>rd</sub> =5V	0.01	-	0.2	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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