GH06550B2B

High Power Red Laser Diode for ×2 Speed DVD Drive (656nm-50mW)

■ Features

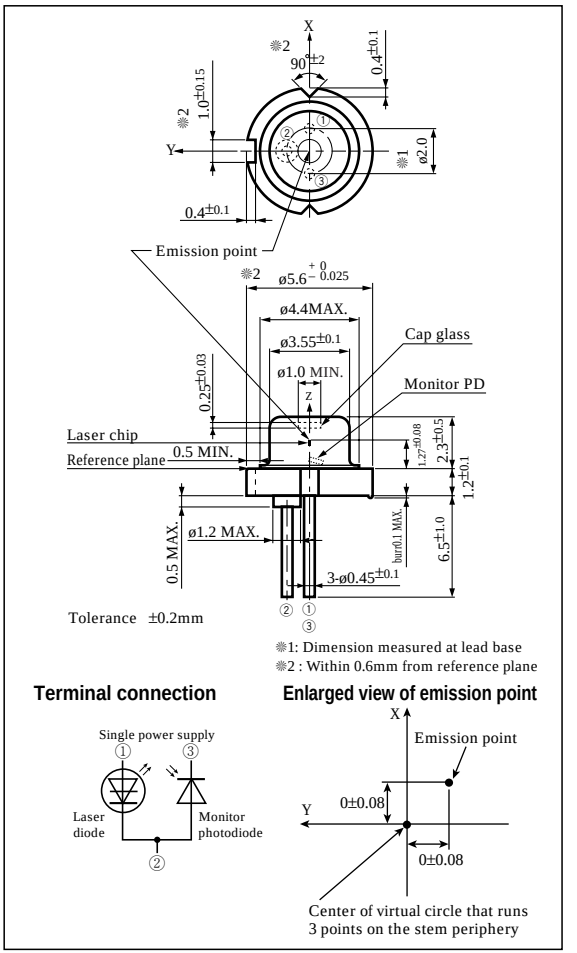
(1) ×2 speed DVD-R/+R/-RW/+RW/RAM drives
(2) High power output (pulse MAX. 70mW)
(3) Wavelength : TYP. 656nm
(4) Operating temperature : MAX. 70˚C
(5) ϕ5.6mm package

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Tc=25˚C ※1)

Parameter			Symbol	Rating	Unit
※3 Optical power output			P_O	50	mW
※2 Optical power output (pulse)			P_p	70	mW
Reverse voltage		Laser	V_{rl}	2	V
		Monitor photodiode	V_{rd}	30	V
※1 Operating temperature	※3	CW	Topc(c)	-5 to +65	˚C
	※2	Pulse	Topp(c)	-5 to +70	˚C
Storage temperature			T_{stg}	-40 to +85	˚C
※4 Soldering temperature			T_{sld}	300	˚C

※1 Case temperature
※2 Pulse width : 0.3μs, Duty : 50%
※3 CW (Continuous Wave) drive
※4 At the position of 1.6mm or more from the lead base (3s)

■ Electro-optical Characteristics※1

(Tc=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	−	-	35	55	mA
Operating current		I_{op}	Po=45mW	-	80	100	mA
Operating voltage		V_{op}		-	2.6	2.95	V
Wavelength		λ_p		650	656	660	nm
Half intensity angle	※2※3 Parallel	θ//		6	8	10	˚
	※2※3 Perpendicular	θ⊥		19	22	25	˚
※4 Ripple		R_I		-20	-	+20	%
Misalignment angle	※3 Parallel	Δθ//		-2	-	+2	˚
	※3 Perpendicular	Δθ⊥		-3	-	+3	˚
Differential efficiency		η_d	$\frac{35mW}{I(35mW)-I(10mW)}$	0.75	1.0	-	mW/mA
Interference pattern intensity		α	Po=45mW	-	-	1	-
※5 Kink		K-LI	P1=14mW, P2=42mW, P3=70mW	-10	-	+10	%
Polarization angle		ω	Po=3mW, NA=0.13	-20	-	+20	˚
Polarization ratio		P_I		20	-	-	-

※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 $R_I=\Delta P/P$ 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 : 0.3μs, Duty : 50%)

■ Electrical Characteristics of Photodiode

(Tc=25˚C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=45mW, V_{rd}=5V	0.01	-	0.2	mA
Dark current	I_D	V_{rd}=5V	-	-	150	nA
Terminal capacitance	C_t	V_{rd}=5V, f=1MHz	-	3.5	-	pF

• Please refer to the chapter "Handling Precautions"

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