GH06535A2B

High Power Red Laser Diode for DVD-R/RW/RAM Drive(654nm-35mW)

■ Features

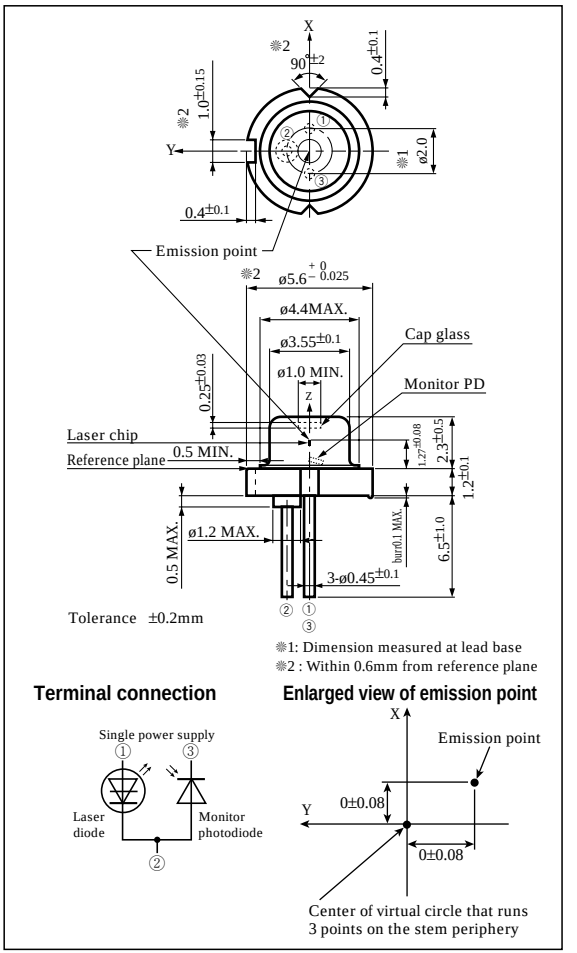
(1) High power output for DVD-R/RW/RAM drives (MAX. 35mW CW)
(2) Wavelength : TYP. 654nm
(3) ϕ5.6mm package

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(T_C=25˚C ※1)

Parameter		Symbol	Rating	Unit
Optical power output (CW)		P_O	35	mW
※2 Optical power output (pulse)		P_p	50	mW
Reverse voltage	Laser	V_{rl}	2	V
	Monitor photodiode	V_{rd}	30	V
※1 Operating temperature		$T_{op(c)}$	-5 to +70	˚C
Storage temperature		T_{stg}	-40 to +85	˚C
※3 Soldering temperature		T_{sld}	300	˚C

※1 Case temperature
※2 Pulse width : 0.5μs, Duty : 50%
※3 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}	−	-	50	65	mA
Operating current		I_{op}	Po=30mW	-	100	115	mA
Operating voltage		V_{op}		-	2.4	2.7	V
Wavelength		λ_p		650	654	658	nm
Half intensity angle	※2※3 Parallel	θ//		6.0	7.5	9.0	°
	※2※3 Perpendicular	θ⊥		19.0	22.0	25.0	°
※4 Ripple		R_I		-	-	20	%
Misalignment angle	※3 Parallel	Δθ//		-	-	±2	°
	※3 Perpendicular	Δθ⊥		-	-	±3	°
Differential efficiency		η_d	$\frac{20mW}{I(30mW)-I(10mW)}$	0.65	0.80	-	mW/mA
Interference pattern intensity		α	Po=30mW	-	-	1	-
※5 Kink (25˚C)		K-LI(25˚C)	P1=10mW, P2=30mW, P3=50mW	-5	-	5	%
※6 Kink (-5˚C)		K-LI(-5˚C)	P1=7mW, P2=21mW P3=35mW, Tc=-5˚C	-5	-	7	%
※6 Kink (70˚C)		K-LI(70˚C)	P1=10mW, P2=30mW P3=50mW, Tc=70˚C	-5	-	10	%
Polarization angle		−	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 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 : 0.5μs, Duty : 50%)

※6 Pulse drive (Pulse width : 0.1μs, Duty : 50%)

■ Electrical Characteristics of Photodiode

(Tc=25˚C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=30mW (CW), V_{rd}=5V	0.01	0.025	0.2	mA
Dark current	I_D	V_{rd}=5V	-	-	150	nA
Terminal capacitance	C_t	V_{rd}=5V, f=1MHz	-	3.5	-	pF

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