GH06507S2A

Self-oscillating Type Red Laser Diode for DVD Video Player (654nm-7mW)

■ Features

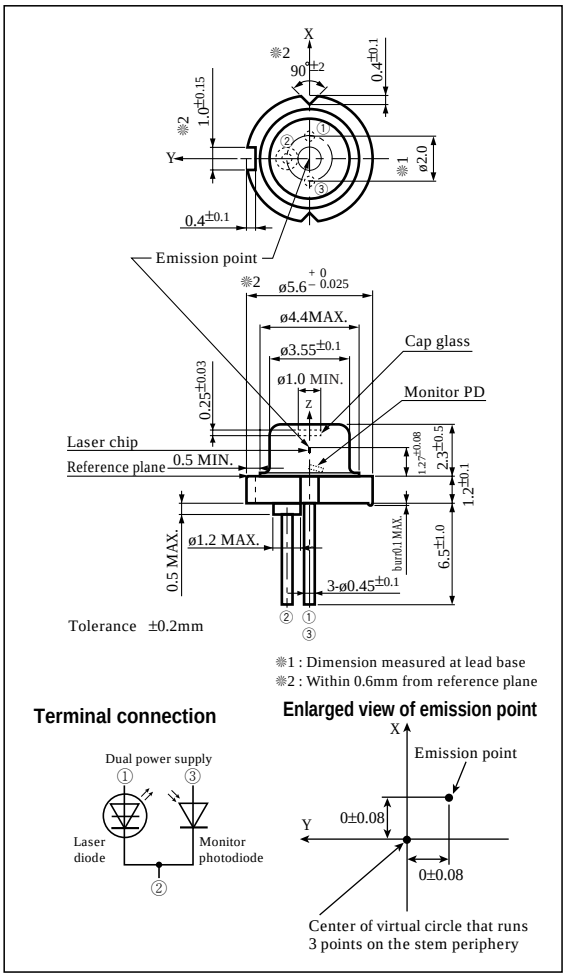
(1) Employing a self-oscillating laser chip enables a compact and low cost pick-up.
It eliminates the need for radio frequency modulation circuits and related resistors/shields.
(2) Maximum optical power output : 7mW (CW)
(3) Wavelength : TYP. 654nm
(4) ϕ5.6 mm package

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Tc=25˚C)

Parameter		Symbol	Rating	Unit
※3 Optical power output		P_O	7	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}	300	˚C

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

■ Electro-optical Characteristics※1

(Tc=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	–	-	65	85	mA
Operating current		I_{op}	Po=5mW	-	75	91	mA
Operating voltage		V_{op}	Po=5mW	-	2.5	2.9	V
Wavelength		λ_p	Po=5mW	648	654	663	nm
※2 Half intensity angle	Parallel	θ//	Po=5mW	7	8.5	11	˚
	Perpendicular	θ⊥	Po=5mW	29	35	42	˚
※4 Ripple		R_I	Po=5mW	-20	-	+20	%
Misalignment angle	※2※3 Parallel	Δθ//	Po=5mW	-2	-	+2	˚
	※2※3Perpendicular	Δθ⊥	Po=5mW	-3	-	+3	˚
Interference pattern intensity		α	Po=5mW	-	-	0.9	-
Differential efficiency		η_d	$\frac{3mW}{I\,(5mW) - I\,(2mW)}$	0.25	0.45	0.75	mW/mA

※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

■ Electrical Characteristics of Photodiode

(Tc=25˚C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=5mW, V_{rd}=5V	0.2	0.55	1.0	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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--- Telecommunication equipment [terminal]
--- Test and measurement equipment
--- Industrial control
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--- Consumer electronics

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