LT051PS

High Power Red Laser Diode for DVD-R/DVD-RW Drive(635nm-30mW)

■ Features

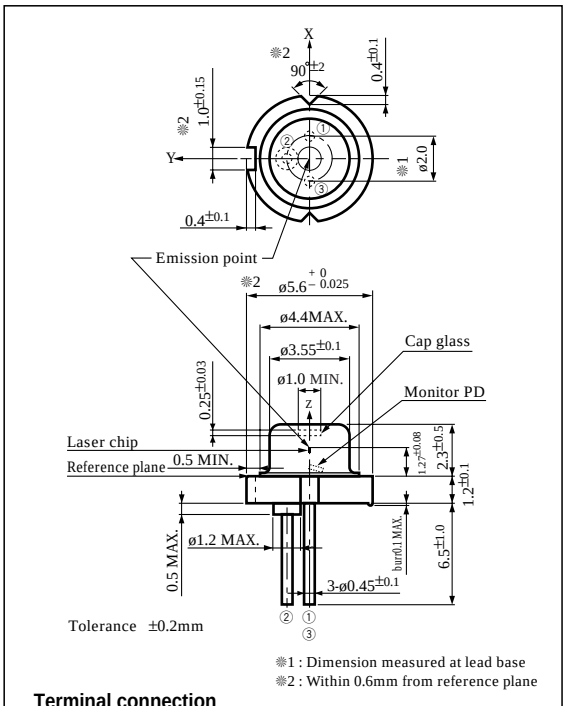
(1) Maximum optical power output : 30mW (CW)
(2) Wavelength : 635nm band
(3) Single mode
(4) Single power supply
(5) ϕ5.6mm package

■ Applications

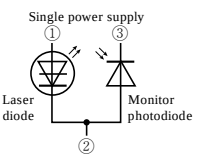
(1) DVD-R drives
(2) DVD-RW drives

■ Outline Dimensions

(Unit : mm)



Terminal connection



■ Absolute Maximum Ratings

(T_C=25˚C)

Parameter		Symbol	Rating	Unit
※1 Optical power output		P_O	30	mW
Optical power output (pulse)		P_p	※2 50	mW
Reverse voltage	Laser	V_{rl}	2	V
	Monitor photodiode	V_{rd}	30	V
※3 Operating temperature		T_{opr}	-10 to +50	˚C
※3 Storage temperature		T_{stg}	-40 to +85	˚C
※4 Soldering temperature		T_{sld}	260	˚C

※1 CW (Continuous Wave) drive
※2 Pulse width : 0.5μs, duty : 50%
※3 Case temperature
※4 At the position of 1.6mm or more from the lead base (5s)

■ Electro-optical Characteristics※1

(Tc=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	–	-	60	90	mA
Operating current		I_{op}	Po=30mW	-	105	135	mA
Operating voltage		V_{op}	Po=30mW	2.0	2.4	2.9	V
Wavelength		λ_p	Po=30mW	635	639	642	nm
※2 Half intensity angle	Parallel	θ//	Po=30mW	7.0	8	10	˚
	Perpendicular	θ⊥	Po=30mW	21.0	24.0	27.0	˚
Ripple		R_l	Po=30mW	-	-	±20	%
Misalignment angle	Parallel	Δθ//	Po=30mW	-	-	±2	˚
	Perpendicular	Δθ⊥	Po=30mW	-	-	±3	˚
Misalignment position		Δx,Δy,Δz	–			±80	μm
Interference pattern intensity		α	Po=30mW	-	-	1.0	-
Differential efficiency		η_d	$\frac{20mW}{I(30mW) - I(10mW)}$	0.45	0.7	1.0	mW/mA

※1 Initial value, CW (Continuous Wave) drive

※2 Angle at 50% peak intensity (full-width at half-maximum)

■ Electrical Characteristics of Photodiode

(Tc=25˚C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I_m	Po=30mW, 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

• Please refer to the chapter "Handling Precautions"

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--- Office automation equipment
--- Telecommunication equipment [terminal]
--- Test and measurement equipment
--- Industrial control
--- Audio visual equipment
--- Consumer electronics

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--- Gas leakage sensor breakers
--- Alarm equipment
--- Various safety devices, etc.

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