

LT051PS

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

■ Features

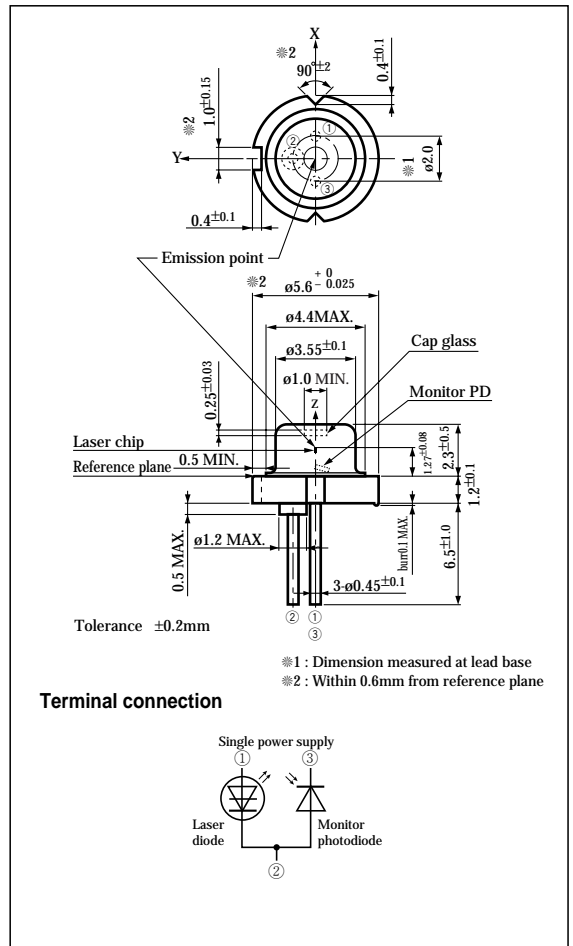
- (1) Maximum optical power output : 30mW (CW)
- (2) Wavelength : 635nm band
- (3) Single mode
- (4) Single power supply
- (5) $\phi 5.6$ mm package

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ 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 _{slid}	260	°C

- *1 CW (Continuous Wave) drive
- *2 Pulse width : 0.5 μ s, 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 _i	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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