

LT015PD

High Power, Single Positive Power Supply Laser Diode(830nm-40mW)

■ Features

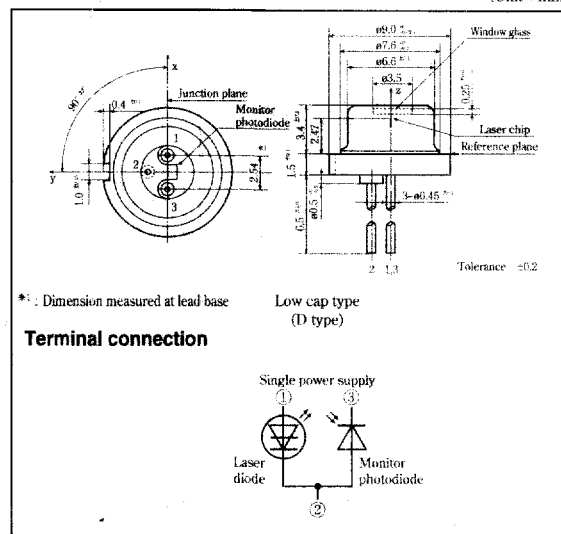
- (1) Single positive power supply
- (2) High power (Maximum optical power output : 40mW)
- (3) Wavelength : 830nm
- (4) Transverse mode

■ Applications

- (1) Optical disc equipment
- (2) Medical apparatus

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(T_c=25°C)

Parameter	Symbol	Rating	Unit
Optical power output	P _o	40	mW
Reverse voltage	V _R	2	V
		30	V
*1 Operating temperature	T _{opr}	-10 to +50	°C
*1 Storage temperature	T _{stg}	-40 to +85	°C
*2 Soldering temperature	T _{sl}	260°C/5s	-

*1 Case temperature

*2 At the position of 1.6mm or more from the lead base

■ Electro-optical Characteristics*1

(Tc=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current		I_{th}	—	—	60	80	mA
Operating current		I_{op}	Po=30mW	—	95	130	mA
Operating voltage		V_{op}	Po=30mW	—	1.75	2.2	V
*2 Wavelength		λ_p	Po=30mW	815	830	845	nm
Monitor current		I_m	Po=30mW, $V_R=15V$	30	100	380	μA
Radiation characteristics	*3 Angle	Parallel to junction	$\theta_{//}$	Po=30mW	8	9.5	14 °
		Perpendicular to junction	$\theta_{\perp}$	Po=30mW	20	27	38 °
	Ripple		—	Po=30mW	—	±20	%
			$\Delta\theta_{//}$	Po=30mW	—	±2	°
Emission point accuracy	Angle	$\Delta\theta_{\perp}$	Po=30mW	—	—	±3	°
		—	Po=30mW	—	—	±3	°
	Position		$\Delta x, \Delta y, \Delta z$	—	—	±80	μm
Differential efficiency		η	$\frac{20mW}{I(30mW) - I(10mW)}$	0.5	0.8	1.1	mW/mA

*1 Initial value, CW (Continuous Wave) drive

*2 Oscillation mode, single transverse mode

*3 Angle at 50% peak intensity (full-width at half-maximum)

■ Electrical Characteristics of Photodiode

(Tc=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Sensitivity	S	$V_R=15V$	—	3.3	—	$\mu A/mW$
Dark current	I_D	$V_R=15V$	—	—	150	nA
Terminal capacitance	C_t	$V_R=15V, f=1MHz$	—	18	—	pF

· Please refer to the chapter "Handling Precautions"