

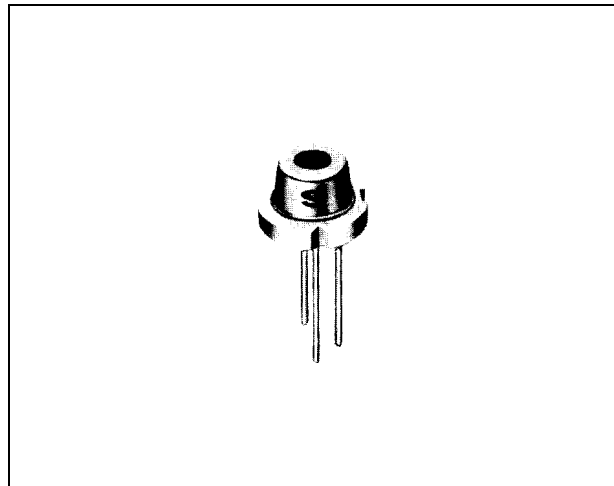
# LT022PS

## Features

- .Compact (diameter: 5.6mm)
- .Single positive power supply
- .Low noise S/ N: -60dB  
(according to measurement method fig. 27-2)
- .Wavelength: 780nm
- .Single transverse mode

## Applications

- .CD players
- CD-ROMs
- .Information processing equipment



## Absolute Maximum Ratings

(T<sub>c</sub> = 25°C)

Parameter	Symbol	Ratings	Units
Optical power output	P <sub>o</sub>	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature* <sup>1</sup>	T <sub>opr</sub>	-10 to +70	°C
Storage temperature* <sup>1</sup>	T <sub>stg</sub>	-40 to +85	°C

\* 1 Case temperature

## Electro-optical Characteristics\*\*

T<sub>c</sub> = 25°C

Parameter	Symbol	Condition	Ratings			Units		
			MIN	TYP	MAX			
Threshold current	I <sub>th</sub>			45	60	mA		
Operating current	I <sub>op</sub>	P <sub>o</sub> = 3mW		55	75	mA		
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 3mW		1.75	2.0	v		
Wavelength* <sup>2</sup>	λ <sub>p</sub>	P <sub>o</sub> = 3mW	770	780	795	nm		
Monitor current	I <sub>m</sub>	P <sub>o</sub> = 3mW V <sub>R</sub> = 15V	0.08	0.20	0.42	mA		
Radiation characteristics	Angle* <sup>3</sup>	Parallel to junction	θ <sub>//</sub>	P <sub>o</sub> = 3mW	8.5	11	16	deg
		Perpendicular to junction	θ <sub>⊥</sub>	P <sub>o</sub> = 3mW	29	35	48	deg
	Ripple			P <sub>o</sub> = 3mW			±20	%
Emission point accuracy	Angle		Δφ <sub>//</sub>	P <sub>o</sub> = 3mW			±2	deg
			Δφ <sub>⊥</sub>	P <sub>o</sub> = 3mW			±3	deg
	Position		A <sub>x</sub> , Δy, Δz				±80	μm
Differential efficiency	η			2mW				
				I <sub>F</sub> (3mW) - I <sub>F</sub> (1mW)	0.15	0.3	0.5	mW/mA

\* 1 Initial value

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

\* 2 Single transverse mode

## Electrical Characteristics of Photodiode

(T<sub>c</sub> = 25°C)

Parameter	symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	s	V <sub>R</sub> = 15V		0.07		mA/mW
Dark current	I <sub>D</sub>	V <sub>R</sub> = 15V			150	nA
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> = 15V		9		pF