

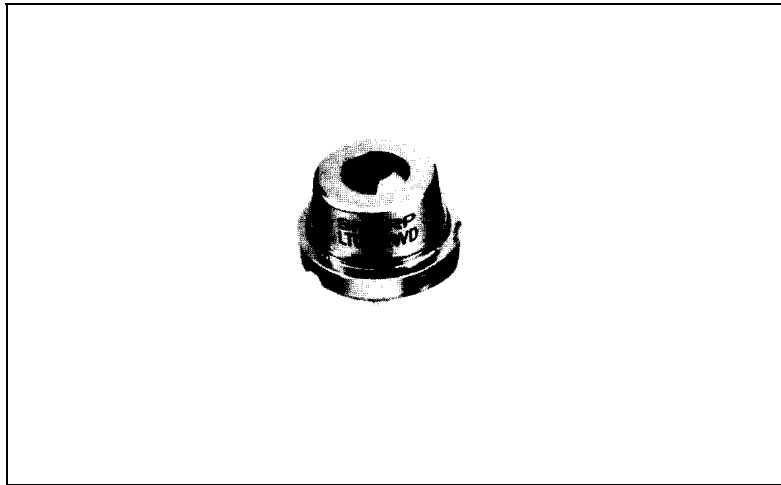
# LT022WD

## Features

- Wide temperature range (−30°C to +85°C)
- Single positive power supply
- Low noise S/ N: −60 dB (according to measurement method Fig. 27-2)
- Wavelength: 780nm
- Single transverse mode

## Applications

- CD-ROMs
- CD players
- 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 **	T <sub>opr</sub>	−30 to +85	°C
Storage temperature **	T <sub>stg</sub>	−40 to +100	°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>			50	80	mA
Operating current	I <sub>op</sub>	P <sub>o</sub> = 3mW		65	100	mA
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 3mW		175	2.2	V
Wavelength *2	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	015	035	0.8	mA
Radiation characteristics	Angle *3 Parallel to junction	θ <sub>  </sub>	8.5	11	16	deg
	Perpendicular to junction	θ <sub>⊥</sub>	25	35	48	deg
	Ripple	P <sub>o</sub> = 3mW			±20	%
Emission point accuracy	Angle	Δφ <sub>  </sub>			±2	deg
		Δφ <sub>⊥</sub>			±3	deg
	Position	A <sub>x</sub> , Δy, A <sub>z</sub>			±80	μm
Differential efficiency	η	2mW	01	0.25	0.6	mW/mA
		I <sub>f</sub> (3mW) − I <sub>f</sub> (1 mW)				

\* 1 Initial value

\* 3 Angle at 50% peak intensity (fullwidth 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		0.12		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		18		pF