

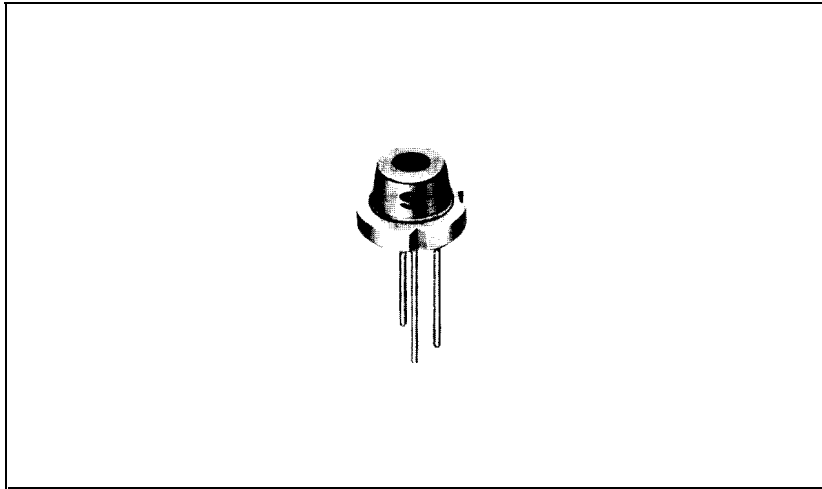
LT023WS

Features

- Wide temperature range (−30°C to +85°C)
- Low noise
S/N: −80 dB (according to measurement method Fig. 27-2)
- Wavelength: 780nm
- Single transverse mode
- Multi longitudinal mode

Applications

- Video disc players
- Fiber optic communications
- Light source for analog processing
- Measurement Instruments
- Analysis Instruments



Absolute Maximum Ratings

(Tc = 25°C)

Parameter	Symbol	Ratings	Units
Optical power output	P _o	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature *1	T _{opr}	−30 to +85	°C
Storage temperature *1 **	T _{stg}	−40 to +100	°C

* 1 Case temperature

Electro-optical Characteristics *1

Tc = 25°C

Parameter	Symbol	condition	Rating*			Units		
			MIN	TYP	MAX			
Threshold current	I _{th}	---	---	45	60	mA		
Operating current	I _{op1}	P _o = 3mW	---	55	75	mA		
Operating voltage	V _{op}	P _o = 3mW	---	17.5	20	V		
Wavelength *2	λ _p	P _o = 3mW	770	780	795	nm		
Monitor current	I _m	P _o = 3mW V _R = 15V	008	020	042	mA		
Radiation characteristics	Angle *3	Parallel to junction	θ	Po = 3mW	85	11	16	deg
		Perpendicular to junction	θ _⊥	Po = 3mW	20	38	48	deg
	Ripple	Po = 3mW	---	---	±20	%		
Emission point accuracy	Angle	Δφ	Po = 3mW	---	---	±2	deg	
		Δφ _⊥	Po = 3mW	---	---	±3	deg	
	Position	Δx, Δy, Δz	---	---	---	±80	μm	
Differential efficiency	η	2mW I _F (3mW) − I _F (1mW)	0.1	0.3	05	mW/mA		
Coherence	γ	Po = 3mW	---	---	0.47			

* 1 Initial value

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

* 2 Single transverse mode

Electrical Characteristics of Photodiode

(Tc = 25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	V _R = 15V	---	0.07	---	mA/mW
Dark current	I _D	V _R = 15V	---	---	150	nA
Terminal capacitance	C _t	V _R = 15V	---	9	---	pF