

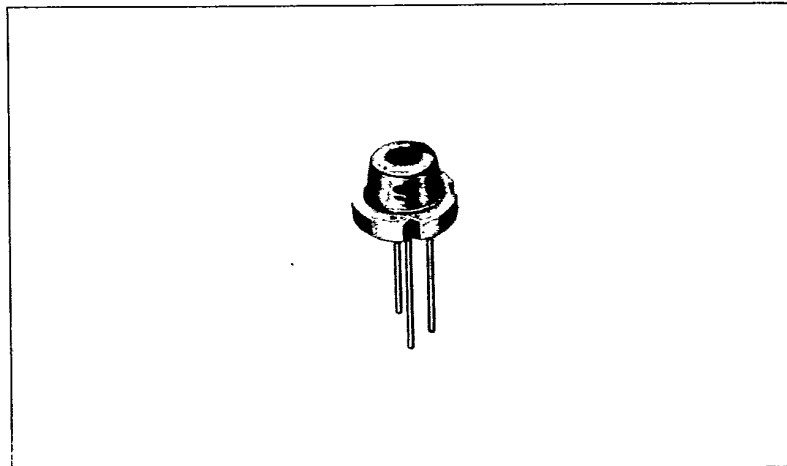
LT023PS

Features

- Compact (diameter: 5.6mm)
- Low noise S/N: 80 dB (according to measurement method Fig. 29-2)
- 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	Po	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature*1	Topr	-10~+70	°C
Storage temperature*1	Tstg	-40~+85	°C
Soldering temperature*2	Tsol	260 (less than 5 seconds)	°C

*1 Case temperature *2 At point 1.6 mm from lead base

Electro-optical Characteristics*1

(Tc=25°C)

Parameter	Symbol	Condition	Ratings			Units	
			MIN	TYP	MAX		
Threshold current	Ith	—	—	45	60	mA	
Operating current	Iop	Po=3mW	—	55	75	mA	
Operating voltage	Vop	Po=3mW	—	1.75	2.0	V	
Wavelength*2	λ_p	Po=3mW	770	780	795	nm	
Monitor current	Im	Po=3mW VR=15V	0.08	0.20	0.42	mA	
Radiation characteristics	Angle*3	Parallel to junction	$\theta_{//}$	8.5	11	16	deg
		Perpendicular to junction	θ_{\perp}	29	38	48	deg
	Ripple	Po=3mW	—	—	±20	%	
Emission point accuracy	Angle	$\Delta\phi_{//}$	Po=3mW	—	—	±2	deg
		$\Delta\phi_{\perp}$	Po=3mW	—	—	±3	deg
	Position	$\Delta x, \Delta y, \Delta z$	—	—	—	±80	μm
Differential efficiency	η	$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	0.1	0.3	0.5	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	VR=15V	—	0.07	—	mA/mW
Dark current	I _D	VR=15V	—	—	150	nA
Terminal capacitance	Ct	VR=15V	—	9	—	pF