

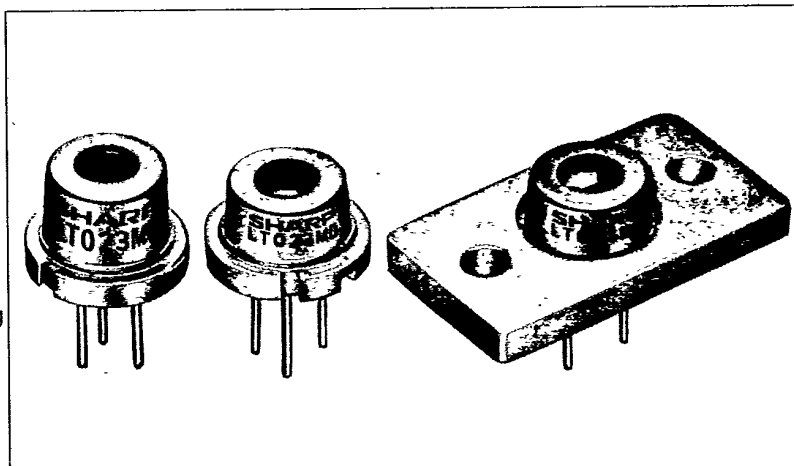
LT023MC/MD/MF

Features

- 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

(T_c=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}	-10~+60	°C
Storage temperature* ¹	T _{stg}	-40~+85	°C
Soldering temperature* ²	T _{sol}	260 (less than 5 seconds)	°C

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

Electro-optical Characteristics*¹

(T_c=25°C)

Parameter	Symbol	Condition	Ratings			Units		
			MIN	TYP	MAX			
Threshold current	I _{th}	—	—	50	90	mA		
Operating current	I _{op}	P _o =3mW	—	65	110	mA		
Operating voltage	V _{op}	P _o =3mW	—	1.75	2.2	V		
Wavelength* ²	λ _p	P _o =3mW	770	780	795	nm		
Monitor current	I _m	P _o =3mW V _R =15V	0.3	0.9	1.6	mA		
Radiation characteristics	Angle* ³	Parallel to junction	θ _∥	P _o =3mW	9	11	16	deg
		Perpendicular to junction	θ _⊥	P _o =3mW	20	37	48	deg
	Ripple	P _o =3mW	—	—	±20	%		
Emission point accuracy	Angle	Δφ _∥	P _o =3mW	—	—	±2	deg	
		Δφ _⊥	P _o =3mW	—	—	±3	deg	
	Position* ⁴	Δx, Δy, Δz	—	—	±80	μm		
Differential efficiency	η	2mW I _F (3mW) - I _F (1mW)	0.1	0.25	0.6	mW/mA		
Coherence	γ	P _o =3mW	—	—	0.47			

*1 Initial value

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

*2 Single transverse mode

*4 Not specified for LT023MF

Electrical Characteristics of Photodiode

(T_c=25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	V _R =15V	—	0.3	—	mA/mW
Dark current	I _D	V _R =15V	—	—	250	nA
Terminal capacitance	C _t	V _R =15V	—	8	20	pF