

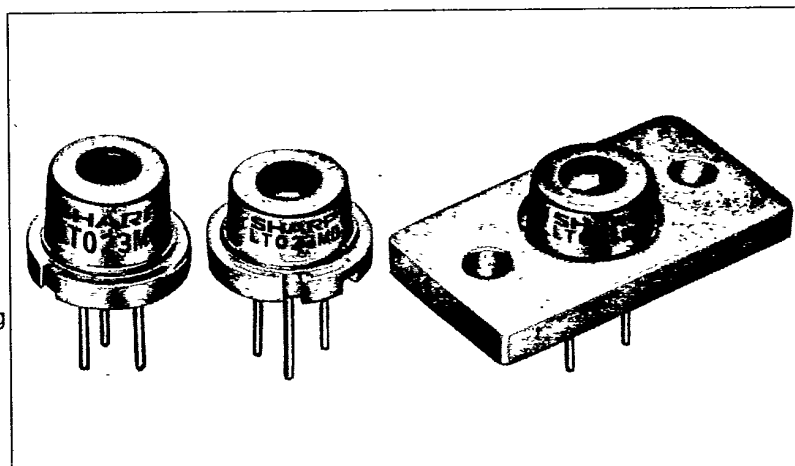
LT023MC/MD/MF

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	V _R	2	V
		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	$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	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