

SHARP ELEK/ MELEC DIV

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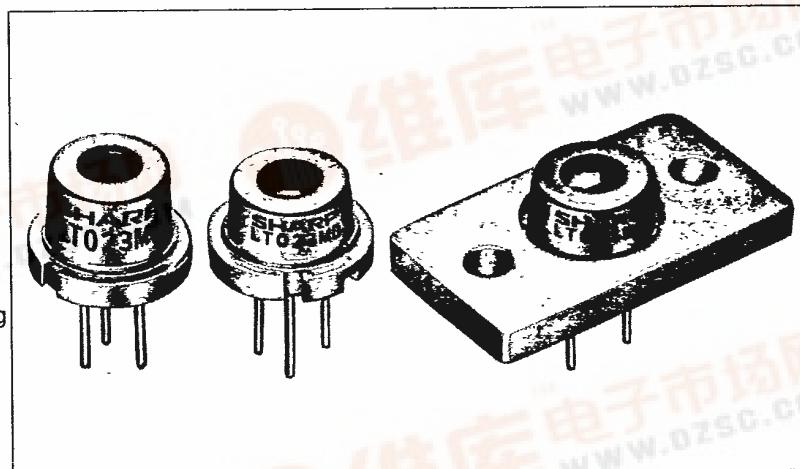
LT023MC/MD/MF

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

(Tc=25°C)

Parameter	Symbol	Ratings	Units
Optical power output	Po	5	mW
Reverse voltage Laser PIN	VR	2	V
		30	
Operating temperature* ¹	Topr	-10 ~ +60	°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	—	—	50	90	mA	
Operating current	Iop	Po=3mW	—	65	110	mA	
Operating voltage	Vop	Po=3mW	—	1.75	2.2	V	
Wavelength* ²	λp	Po=3mW	770	780	795	nm	
Monitor current	Im	Po=3mW VR=15V	0.3	0.9	1.6	mA	
Radiation characteristics	Angle* ³	Parallel to junction	θ //	Po=3mW	9	11	deg
		Perpendicular to junction	θ ⊥	Po=3mW	20	37	deg
Emission point accuracy	Ripple	Angle	Δφ //	Po=3mW	—	—	±20
			Δφ ⊥	Po=3mW	—	—	%
	Position* ⁴	Δx, Δy, Δz	—	Po=3mW	—	—	±2
		Δx, Δy, Δz	—	2mW	—	—	±3
Differential efficiency	η	—	—	—	—	—	deg
Coherence	γ	Po=3mW	—	—	—	—	μm
I _F (3mW) - I _F (1mW)			0.1	0.25	0.6	mW/mA	

*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

(Tc=25°C)

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