

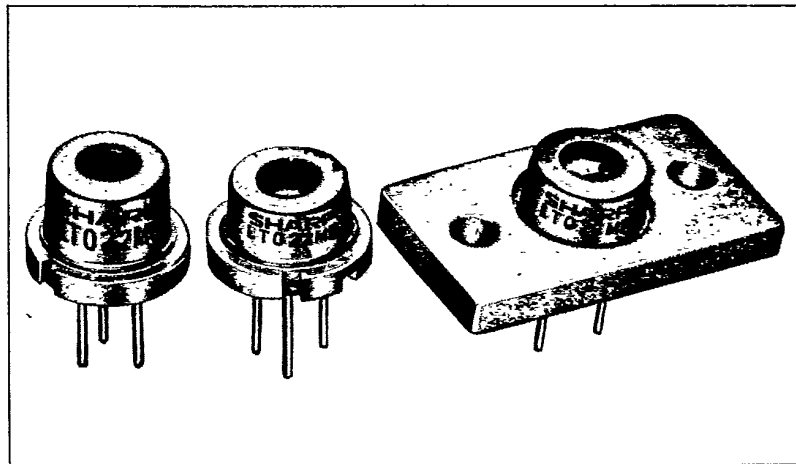
# LT022MC/MD/MF

## Features

- Low noise  
S/N: 60 dB (according to measurement method Fig. 29-2)
- Wavelength: 780nm
- Single transverse mode

## Applications

- CD-ROMs
- CD players
- Information processing equipment



## 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~+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	I <sub>th</sub>	—	—	50	80	mA		
Operating current	I <sub>op</sub>	Po=3mW	—	65	100	mA		
Operating voltage	V <sub>op</sub>	Po=3mW	—	1.75	2.2	V		
Wavelength*2	λp	Po=3mW	770	780	790	nm		
Monitor current	I <sub>m</sub>	Po=3mW V <sub>R</sub> =15V	0.3	0.9	1.6	mA		
Radiation characteristics	Angle*3	Parallel to junction	θ <sub>∥</sub>	Po=3mW	8.5	11	16	deg
		Perpendicular to junction	θ <sub>⊥</sub>	Po=3mW	20	33	45	deg
	Ripple	Po=3mW	—	—	—	±20	%	
Emission point accuracy	Angle	Δφ <sub>∥</sub>	Po=3mW	—	—	±2	deg	
		Δφ <sub>⊥</sub>	Po=3mW	—	—	±3	deg	
	Position*4	Δx, Δy, Δz	—	—	—	±80	μm	
Differential efficiency	η	2mW I <sub>F</sub> (3mW) - I <sub>F</sub> (1mW)	0.1	0.25	0.6	mW/mA		

\*1 Initial value  
\*2 Single transverse mode\*3 Angle at 50% peak intensity (full width at half-maximum)  
\*4 Not specified for LT022MF

## Electrical Characteristics of Photodiode

(Tc=25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	V <sub>R</sub> =15V	—	0.3	—	mA/mW
Dark current	I <sub>D</sub>	V <sub>R</sub> =15V	—	—	150	nA
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =15V	—	8	20	pF