

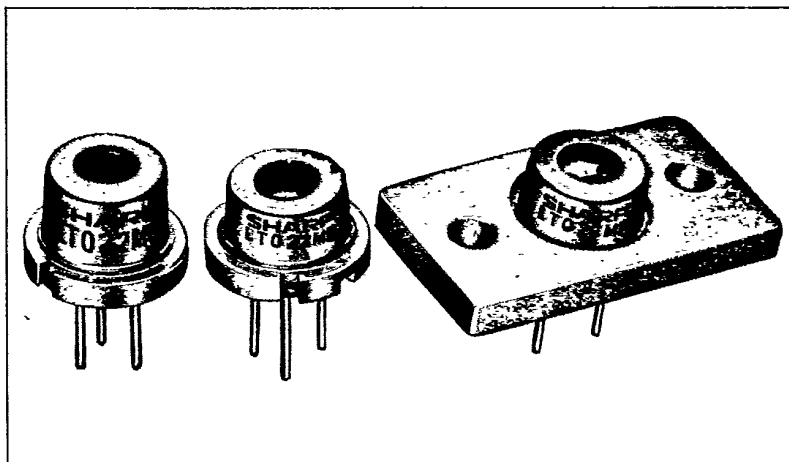
LT022MC/MD/MF

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	Ith	—	—	50	80	mA		
Operating current	Iop	Po=3mW	—	65	100	mA		
Operating voltage	Vop	Po=3mW	—	1.75	2.2	V		
Wavelength*2	λ_p	Po=3mW	770	780	790	nm		
Monitor current	Im	Po=3mW VR=15V	0.3	0.9	1.6	mA		
Radiation characteristics	Angle*3	Parallel to junction	$\theta_{//}$	Po=3mW	8.5	11	16	deg
		Perpendicular to junction	θ_{\perp}	Po=3mW	20	33	45	deg
	Ripple	Po=3mW	—	—	—	±20	%	
Emission point accuracy	Angle	$\Delta\phi_{//}$	Po=3mW	—	—	±2	deg	
		$\Delta\phi_{\perp}$	Po=3mW	—	—	±3	deg	
	Position*4	$\Delta x, \Delta y, \Delta z$	—	—	—	±80	μm	
Differential efficiency	η	$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	0.1	0.25	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	VR=15V	—	0.3	—	mA/mW
Dark current	ID	VR=15V	—	—	150	nA
Terminal capacitance	Ct	VR=15V	—	8	20	pF