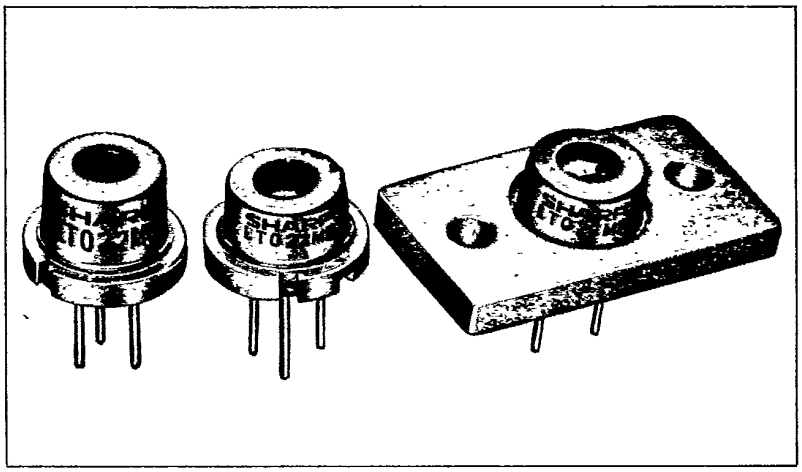
LT022MC/MD/MF

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	V_R	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 MIN	Ratings TYP	Ratings MAX	Units
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			λp	Po=3mW	770	780	790	nm
Monitor current			Im	Po=3mW V_R=15V	0.3	0.9	1.6	mA
Radiation characteristics	Angle*3	Parallel to junction	θ//	Po=3mW	8.5	11	16	deg
		Perpendicular to junction	θ⊥	Po=3mW	20	33	45	deg
	Ripple			Po=3mW	—	—	±20	%
Emission point accuracy	Angle		Δφ//	Po=3mW	—	—	±2	deg
			Δφ⊥	Po=3mW	—	—	±3	deg
	Position*4		Δx, Δy, Δz	—	—	—	±80	μm
Differential efficiency			η	$\frac{2mW}{I_F(3mW)-I_F(1mW)}$	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 MIN	Ratings TYP	Ratings MAX	Units
Sensitivity	S	V_R=15V	—	0.3	—	mA/mW
Dark current	I_D	V_R=15V	—	—	150	nA
Terminal capacitance	Ct	V_R=15V	—	8	20	pF