

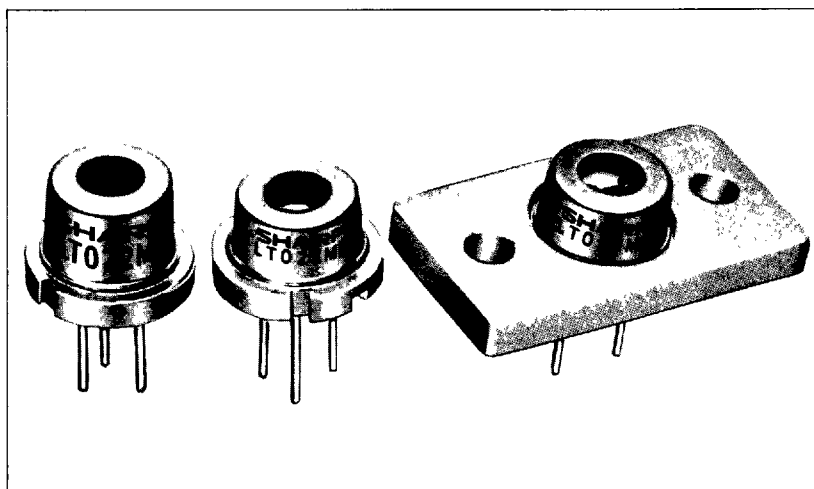
LT022MC/MD/MF

Features

- Low noise
S/N: -60 dB (according to measurement method Fig.27-2)
- Wavelength. 780nm
- Single transverse mode

Applications

- CD-ROMs
- CD players
- Information processing equipment



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 to +60	°C
Storage temperature*1	T _{stg}	-40 to +85	°C

*1 Case temperature

Electro-optical Characteristics*1

(T_c = 25°C)

Parameter			Symbol	Condition	Ratings			Units
					MIN	TYP	MAX	
Threshold current			I _{th}	—	—	50	80	mA
Operating current			I _{op}	P _o =3mW	—	65	100	mA
Operating voltage			V _{op}	P _o =3mW	—	1.75	2.2	V
Wavelength* ²			λ _p	P _o =3mW	770	780	790	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	8.5	11	16	deg
		Perpendicular to junction	θ _⊥	P _o =3mW	20	33	45	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

*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

(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	—	—	150	nA
Terminal capacitance	C _t	V _R = 15V	—	8	20	pF

Common Data

Fig. 94-1 Optical Power Output Dependence of Far-Field Pattern

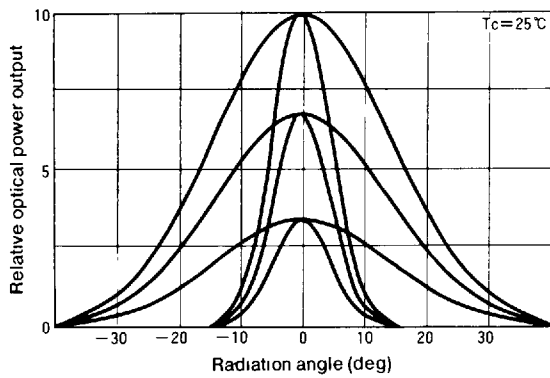


Fig. 94-4 Coupling Efficiency

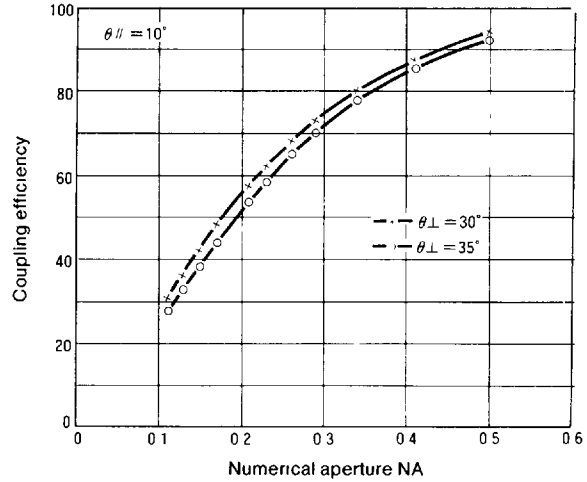


Fig. 94-2 Polarization Ratio vs. Optical Power Output (LT026 series, LT023 series)

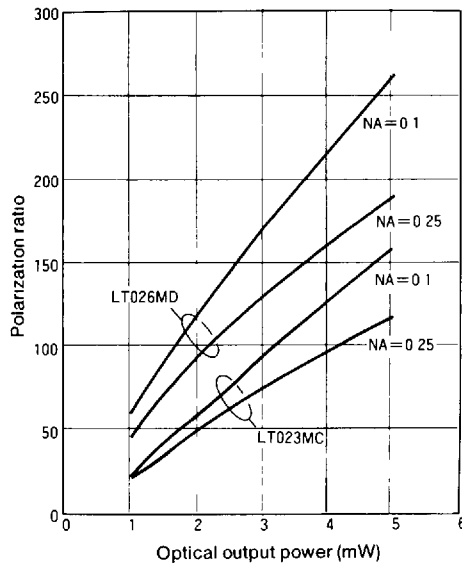


Fig. 94-5 Frequency Response

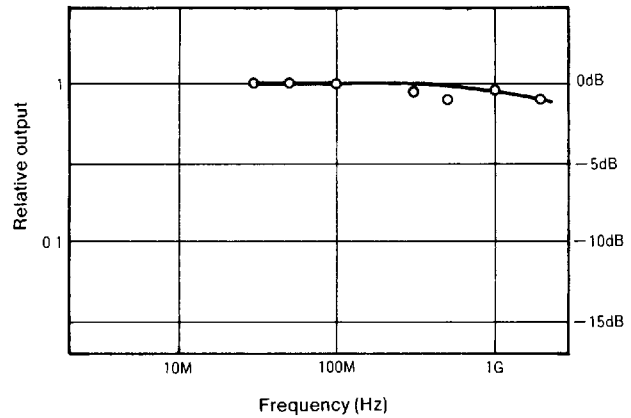
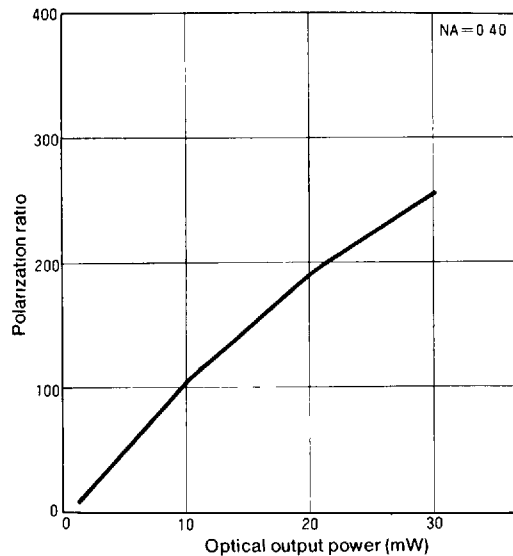


Fig. 94-3 Polarization Ratio vs. Optical Power Output (LT024 series, LT015 series)



Note All data on this page is typical only, and is not intended as a specification. The shapes of these curves can be used as a general reference, but the actual characteristics will vary from device to device.

Built-in PIN Photodiode Characteristics

Fig. 95-1 Photodiode Frequency Response Characteristic

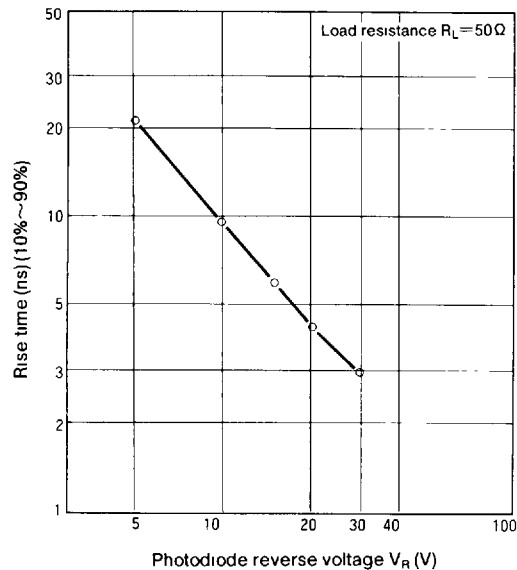
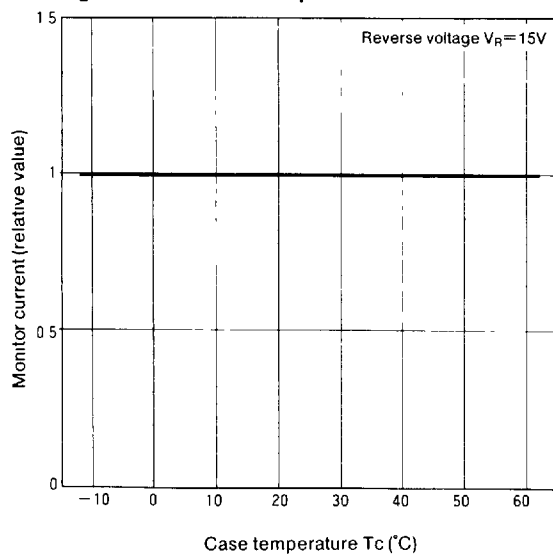


Fig. 95-2 Photodiode Temperature Characteristic



Note All data on this page is typical only, and is not intended as a specification. The shapes of these curves can be used as a general reference, but the actual characteristics will vary from device to device.

Outline Dimensions

Unit: mm

Fig. 98-1 Standard Type (C Type)

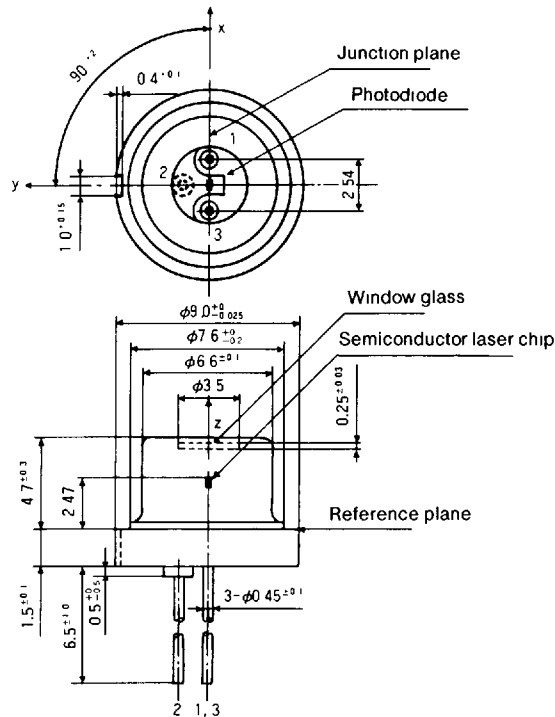


Fig. 98-2 Low-Cap Type (D Type)

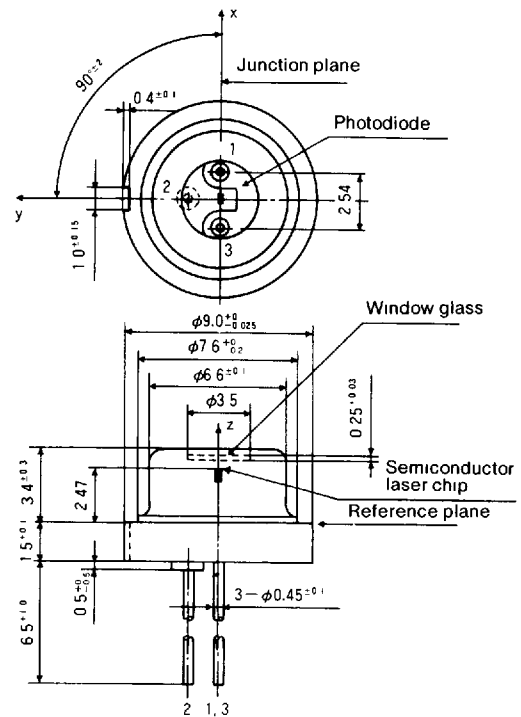


Fig. 98-3 Fin-Equipped Type (F Type)

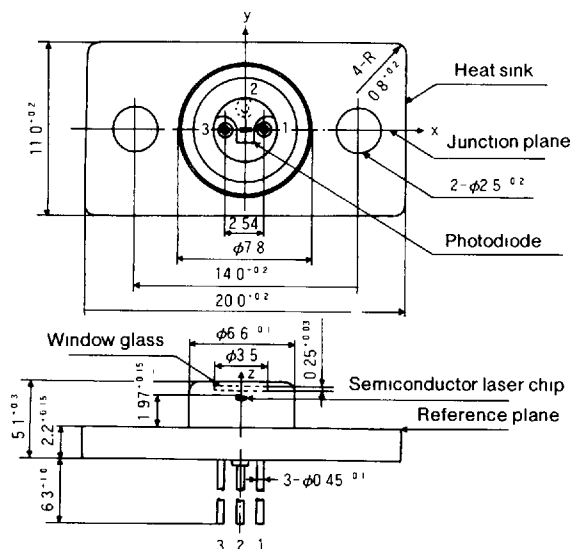
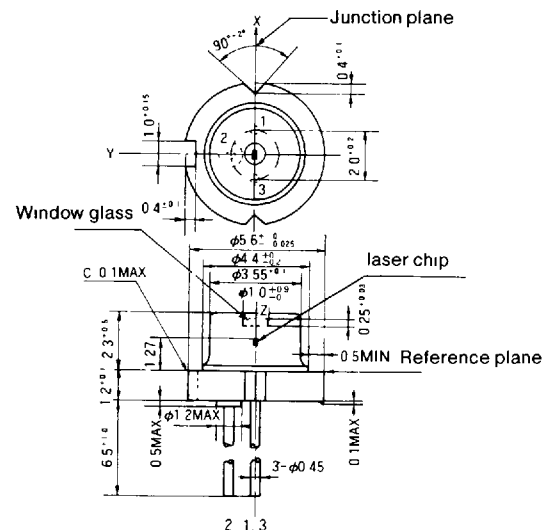


Fig. 98-4 Compact Package Type (S Type)



Terminal connections

