

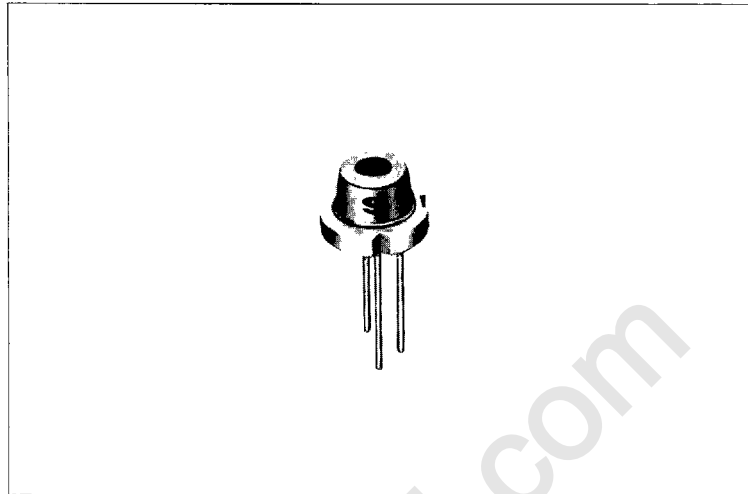
# LT026MS

## Features

- Small astigmatic distance (less than 10  $\mu\text{m}$ )
- Compact (diameter: 5.6mm)
- Wavelength: 780nm
- Single transverse mode

## Applications

- General purpose laser printers
- Information processing equipment



## Absolute Maximum Ratings

(T<sub>c</sub> = 25°C)

Parameter	Symbol	Ratings	Units
Optical power output	P <sub>o</sub>	5	mW
Reverse voltage	V <sub>R</sub>	Laser	2
		PIN	30
Operating temperature* <sup>1</sup>	T <sub>opr</sub>	-10 to +60	°C
Storage temperature* <sup>1</sup>	T <sub>stg</sub>	-40 to +85	°C

\*1 Case temperature

## Electro-optical Characteristics\*<sup>1</sup>

(T<sub>c</sub> = 25°C)

Parameter	Symbol	Condition	Ratings			Units		
			MIN	TYP	MAX			
Threshold current	I <sub>th</sub>	—	—	40	70	mA		
Operating current	I <sub>op</sub>	P <sub>o</sub> = 3mW	—	50	80	mA		
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 3mW	—	1.75	2.2	V		
Wavelength* <sup>2</sup>	$\lambda_p$	P <sub>o</sub> = 3mW	770	780	795	nm		
Monitor current	I <sub>m</sub>	P <sub>o</sub> = 3mW V <sub>R</sub> = 15V	—	0.4	—	mA		
Radiation characteristics	Angle* <sup>3</sup>	Parallel to junction	$\theta_{//}$	P <sub>o</sub> = 3mW	8	11	16	deg
		Perpendicular to junction	$\theta_{\perp}$	P <sub>o</sub> = 3mW	20	29	36	deg
	Ripple	P <sub>o</sub> = 3mW	—	—	±20	%		
Emission point accuracy	Angle	$\Delta\phi_{//}$	P <sub>o</sub> = 3mW	—	—	±2	deg	
		$\Delta\phi_{\perp}$	P <sub>o</sub> = 3mW	—	—	±3	deg	
	Position	$\Delta x, \Delta y, \Delta z$	—	—	—	±80	$\mu\text{m}$	
Differential efficiency	$\eta$	$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	—	0.3	—	mW/mA		

\*1 Initial value

\*3 Angle at 50% peak intensity (full width at half-maximum)

\*2 Single transverse mode

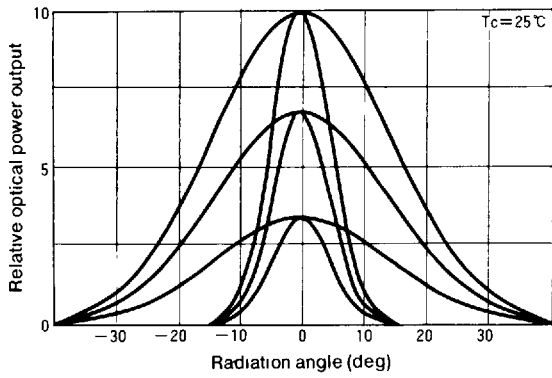
## Electrical Characteristics of Photodiode

(T<sub>c</sub> = 25°C)

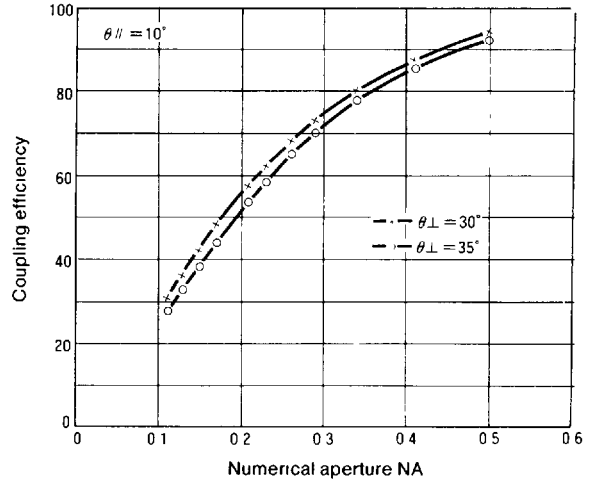
Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	V <sub>R</sub> = 15V	—	0.13	—	mA/mW
Dark current	I <sub>D</sub>	V <sub>R</sub> = 15V	—	—	150	nA
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> = 15V	—	3.5	—	pF

# Common Data

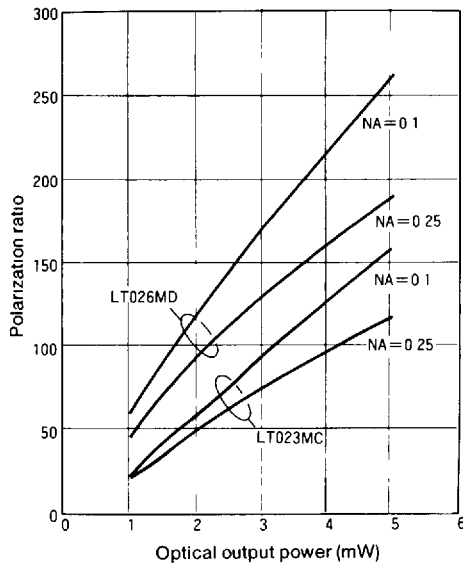
**Fig. 94-1 Optical Power Output Dependence of Far-Field Pattern**



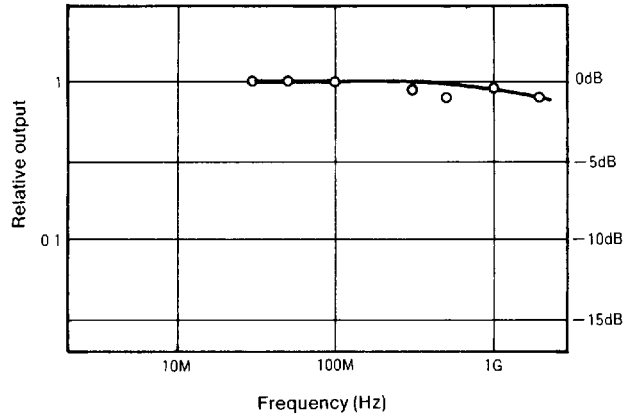
**Fig. 94-4 Coupling Efficiency**



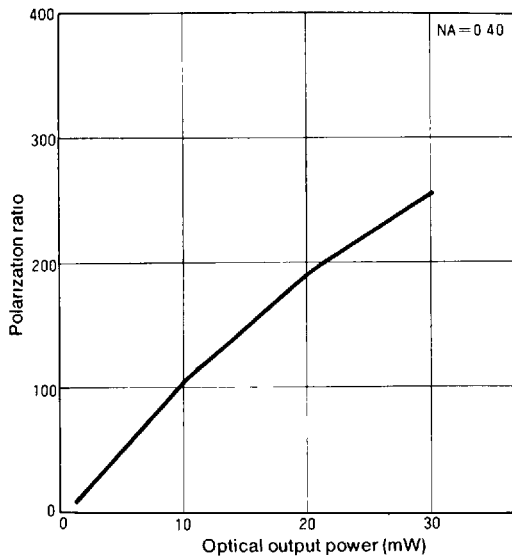
**Fig. 94-2 Polarization Ratio vs. Optical Power Output (LT026 series, LT023 series)**



**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

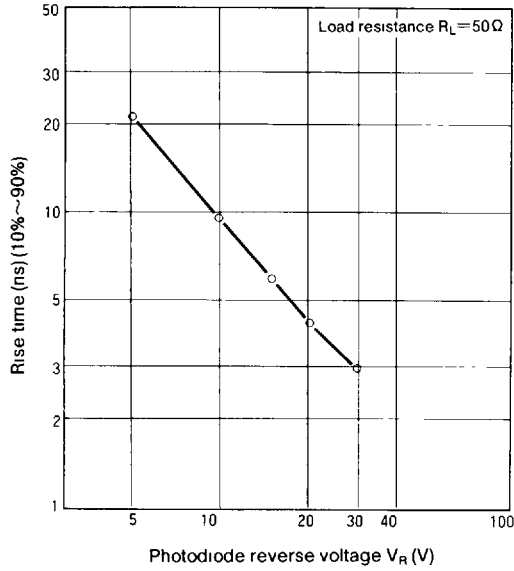
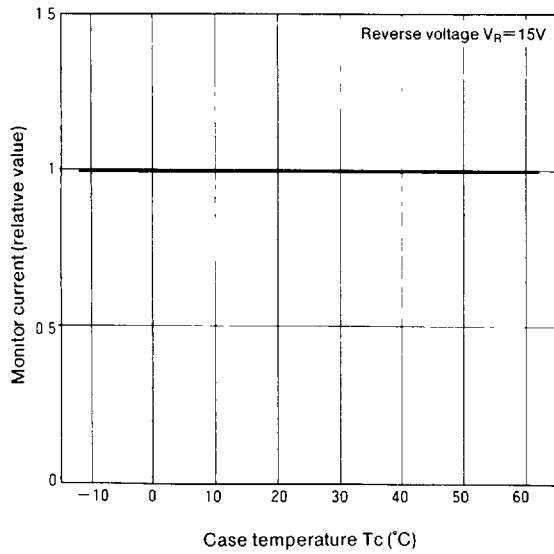


Fig. 95-2 Photodiode Temperature Characteristic



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)

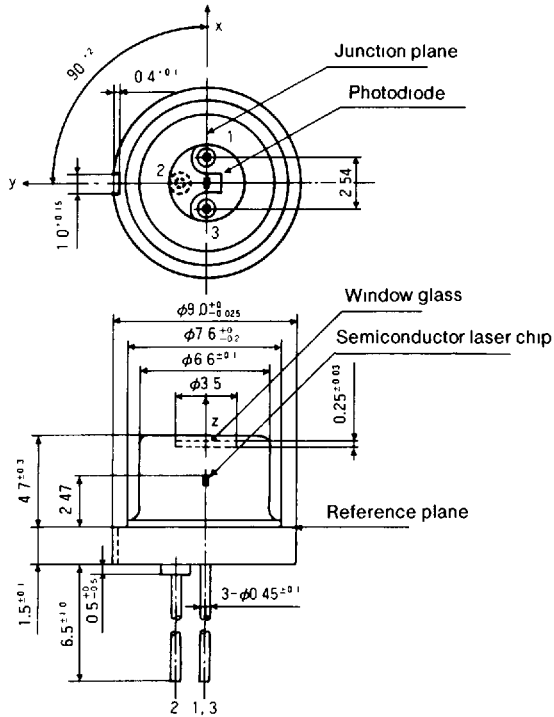


Fig. 98-2 Low-Cap Type (D Type)

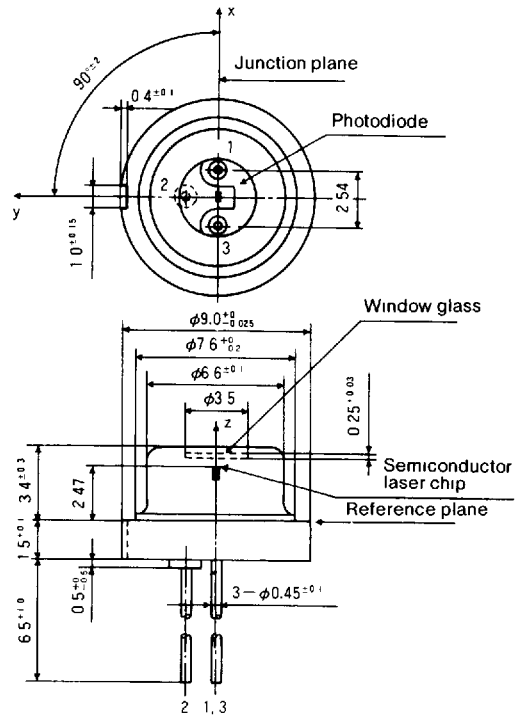


Fig. 98-3 Fin-Equipped Type (F Type)

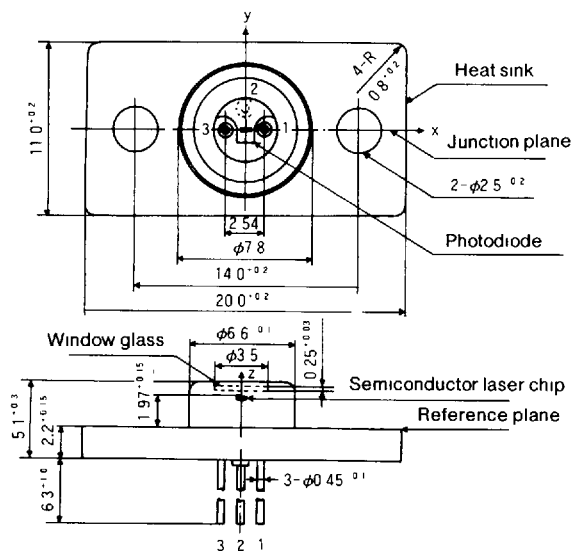
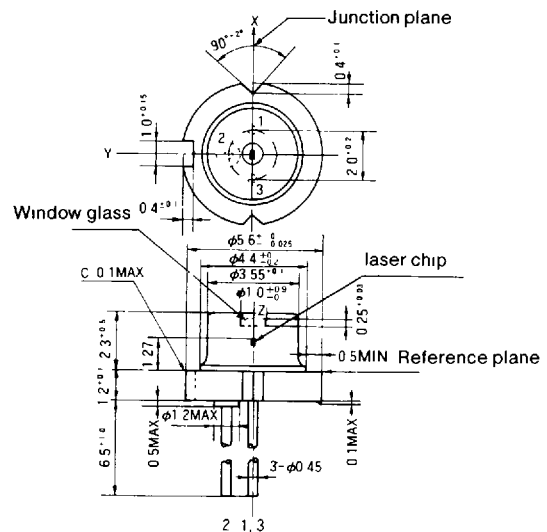


Fig. 98-4 Compact Package Type (S Type)



Terminal connections

