

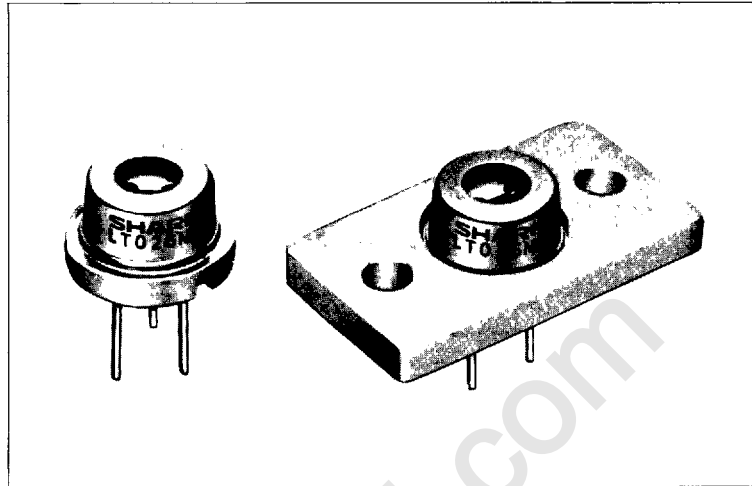
# LT026MD/MF

## Features

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

## Applications

- General purpose laser printers
- Information processing equipment



## Absolute Maximum Ratings

( $T_c=25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Units
Optical power output	$P_o$	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature* <sup>1</sup>	$T_{opr}$	-10 to +60	$^\circ\text{C}$
Storage temperature* <sup>1</sup>	$T_{stg}$	-40 to +85	$^\circ\text{C}$

\* 1 Case temperature

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

( $T_c=25^\circ\text{C}$ )

Parameter	Symbol	Condition	Ratings			Units	
			MIN	TYP	MAX		
Threshold current	$I_{th}$	—	—	50	80	mA	
Operating current	$I_{op}$	$P_o=3\text{mW}$	—	65	100	mA	
Operating voltage	$V_{op}$	$P_o=3\text{mW}$	—	1.75	2.2	V	
Wavelength* <sup>2</sup>	$\lambda_p$	$P_o=3\text{mW}$	770	780	790	nm	
Monitor current	$I_m$	$P_o=3\text{mW}$ $V_R=15\text{V}$	0.3	0.9	1.6	mA	
Radiation characteristics	Angle* <sup>3</sup>	Parallel to junction	$\theta_{//}$	8	11	16	deg
		Perpendicular to junction	$\theta_{\perp}$	20	29	36	deg
	Ripple	$P_o=3\text{mW}$	—	—	$\pm 20$	%	
Emission point accuracy	Angle	$\Delta\phi_{//}$	$P_o=3\text{mW}$	—	—	$\pm 2$	deg
		$\Delta\phi_{\perp}$	$P_o=3\text{mW}$	—	—	$\pm 3$	deg
	Position* <sup>4</sup>	$\Delta x, \Delta y, \Delta z$	—	—	—	$\pm 80$	$\mu\text{m}$
Differential efficiency	$\eta$	$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	0.2	0.3	0.5	mW/mA	

\* 1 Initial value

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

\* 2 Single transverse mode

\* 4 Not specified for LT026MF

## Electrical Characteristics of Photodiode

( $T_c=25^\circ\text{C}$ )

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	$V_R=15\text{V}$	—	0.3	—	mA/mW
Dark current	$I_D$	$V_R=15\text{V}$	—	—	250	nA
Terminal capacitance	$C_t$	$V_R=15\text{V}$	—	8	20	pF

# Common Data

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

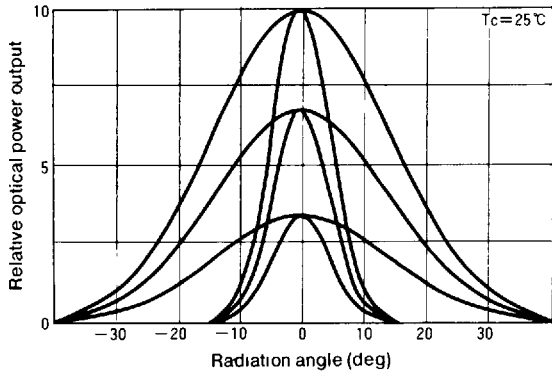


Fig. 94-4 Coupling Efficiency

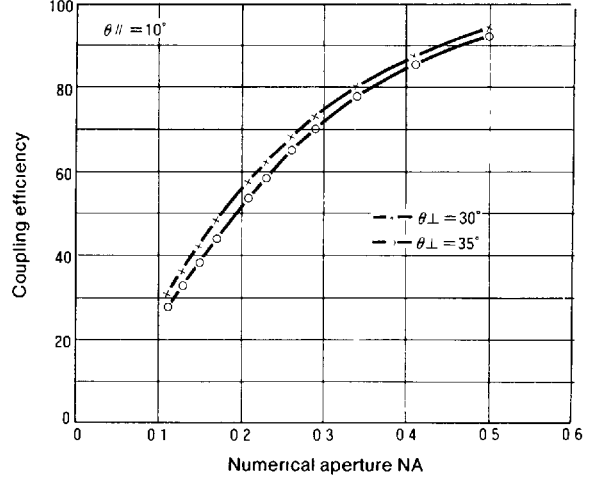


Fig. 94-2 Polarization Ratio vs. Optical Power Output (LT026 series, LT023 series)

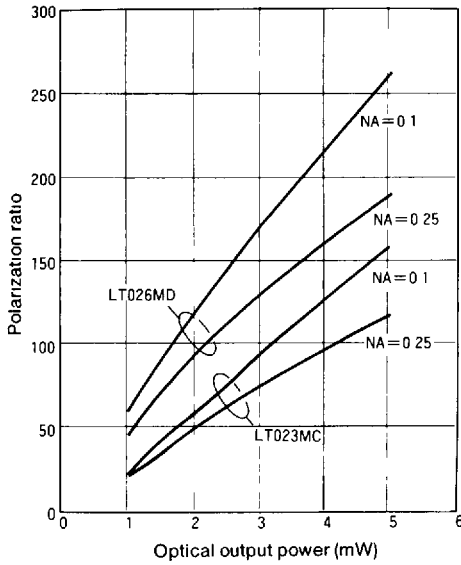


Fig. 94-5 Frequency Response

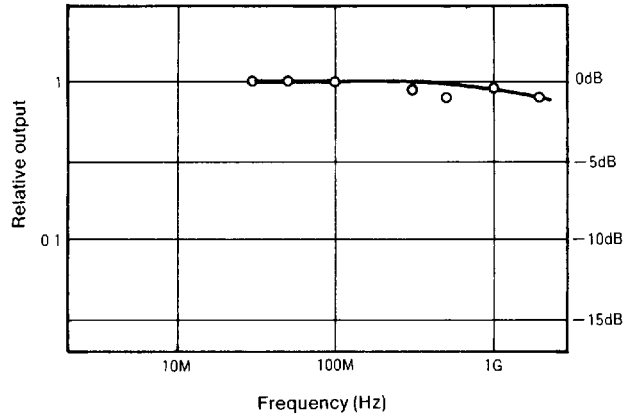
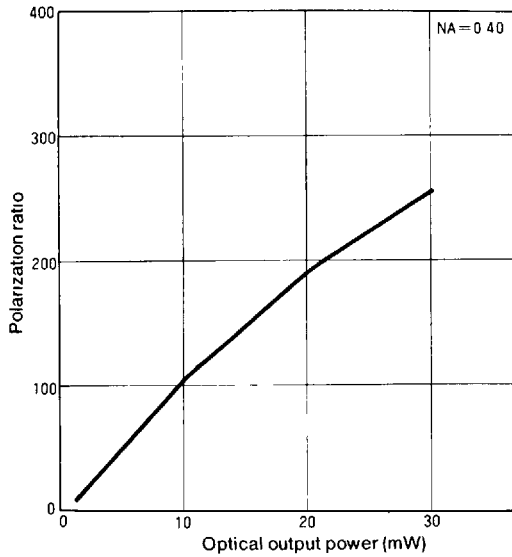


Fig. 94-3 Polarization Ratio vs. Optical Power Output (LT024 series, LT015 series)



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

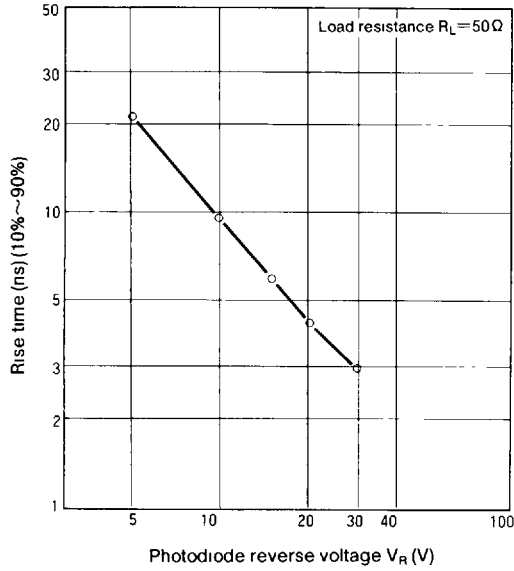
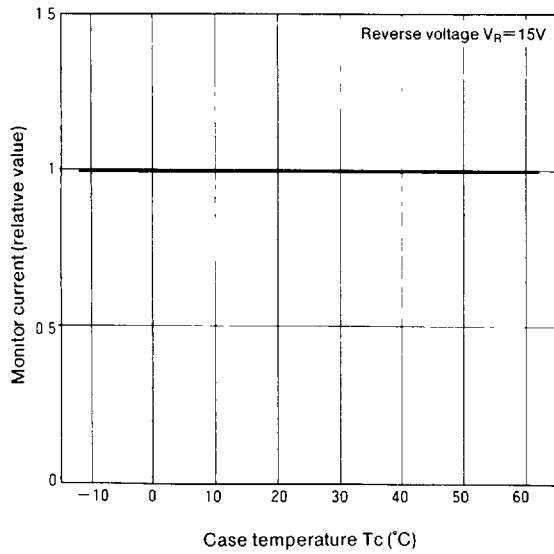


Fig. 95-2 Photodiode Temperature Characteristic



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)

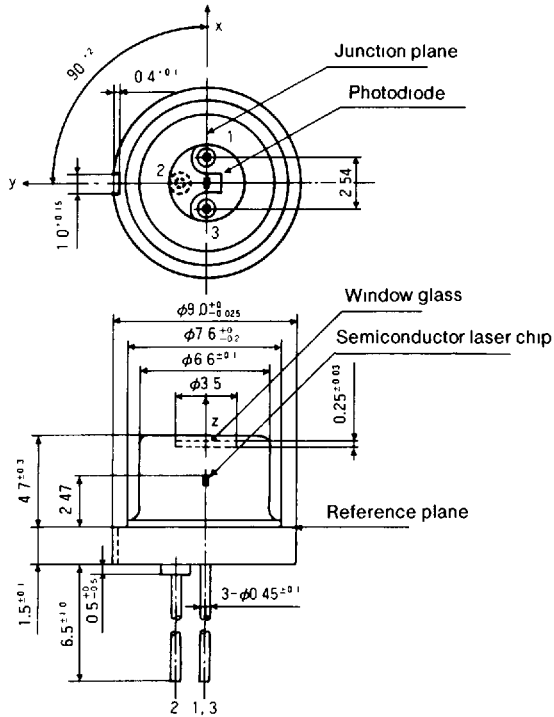


Fig. 98-2 Low-Cap Type (D Type)

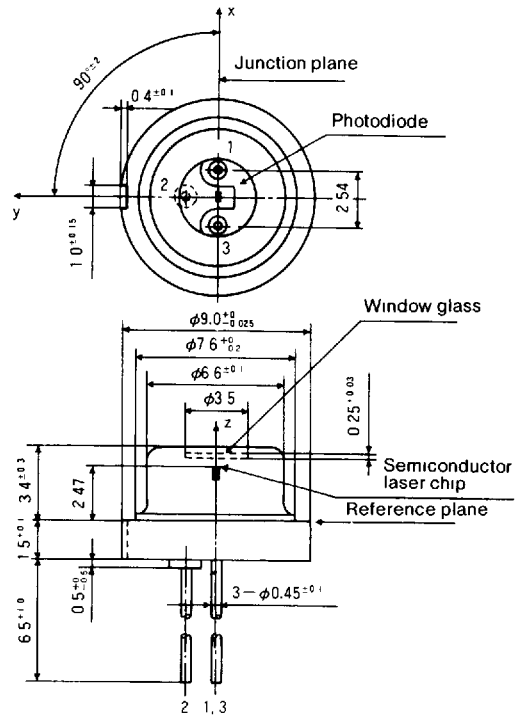


Fig. 98-3 Fin-Equipped Type (F Type)

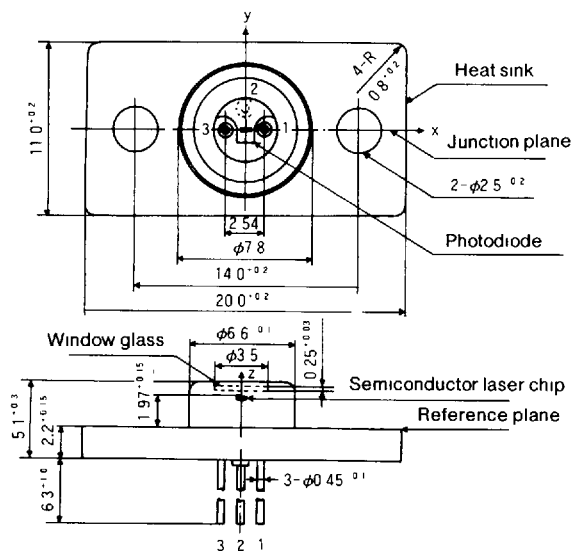
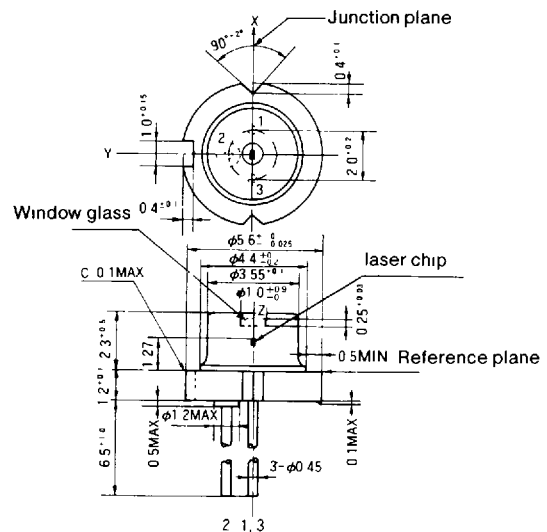


Fig. 98-4 Compact Package Type (S Type)



Terminal connections

