

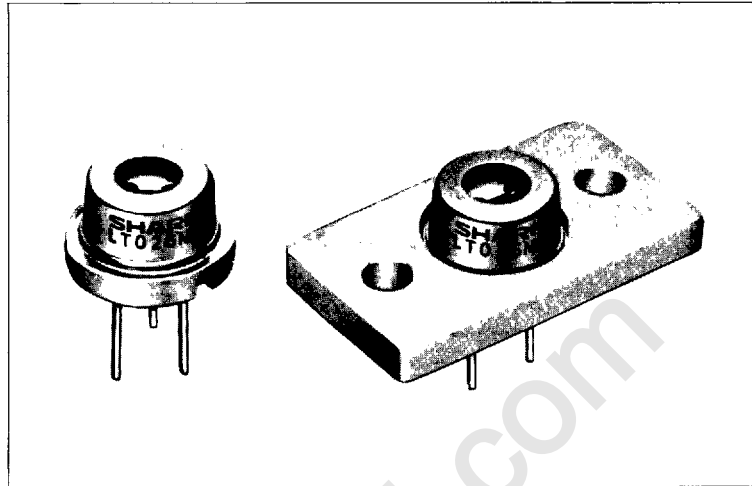
LT026MD/MF

Features

- Small astigmatic distance (less than 10 μm)
- 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* ¹ | T_{opr} | -10 to +60 | $^\circ\text{C}$ |
| Storage temperature* ¹ | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

* 1 Case temperature

Electro-optical Characteristics*¹

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

| 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* ² | λ_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* ³ | Parallel to junction | $\theta_{//}$ | 8 | 11 | 16 | deg |
| | | Perpendicular to junction | θ_{\perp} | 20 | 29 | 36 | deg |
| | Ripple | $P_o=3\text{mW}$ | — | — | ± 20 | % | |
| Emission point accuracy | Angle | $\Delta\phi_{//}$ | $P_o=3\text{mW}$ | — | — | ± 2 | deg |
| | | $\Delta\phi_{\perp}$ | $P_o=3\text{mW}$ | — | — | ± 3 | deg |
| | Position* ⁴ | $\Delta x, \Delta y, \Delta z$ | — | — | — | ± 80 | μm |
| Differential efficiency | η | $\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$ | 0.2 | 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

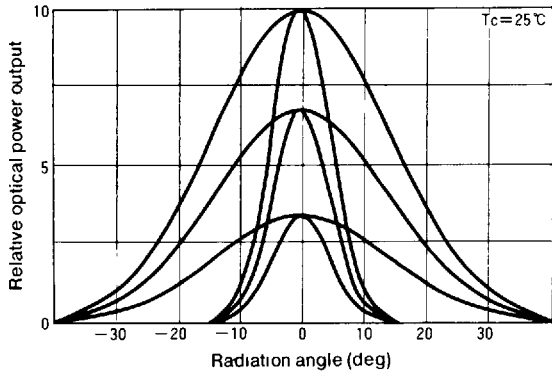


Fig. 94-4 Coupling Efficiency

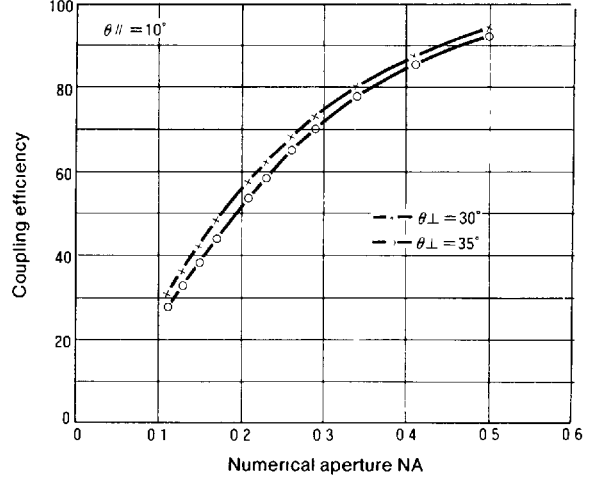


Fig. 94-2 Polarization Ratio vs. Optical Power Output (LT026 series, LT023 series)

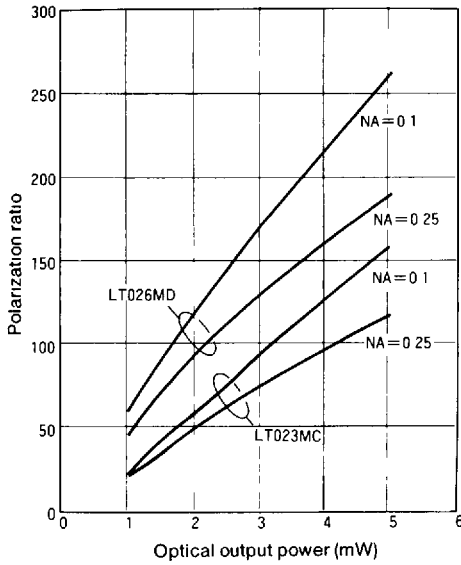


Fig. 94-5 Frequency Response

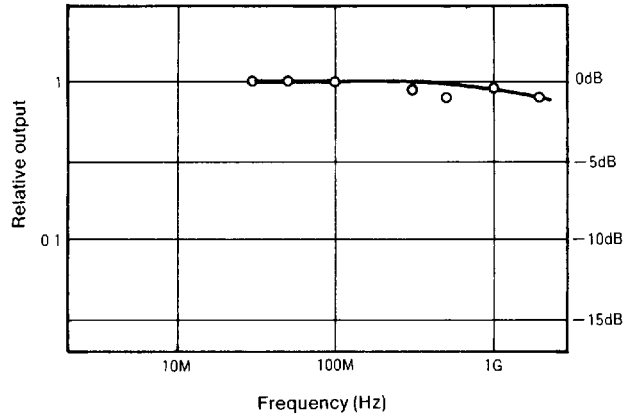
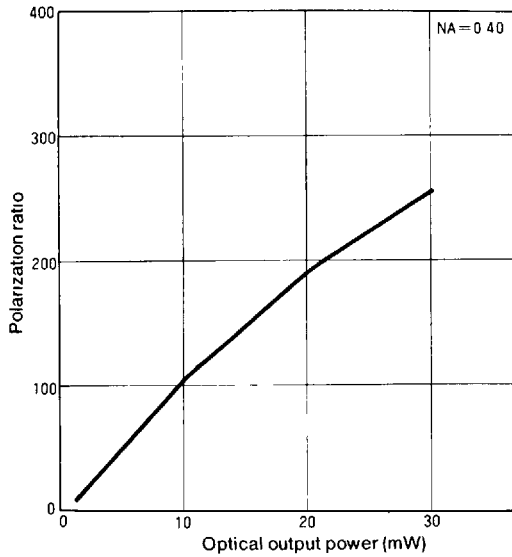


Fig. 94-3 Polarization Ratio vs. Optical Power Output (LT024 series, LT015 series)



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

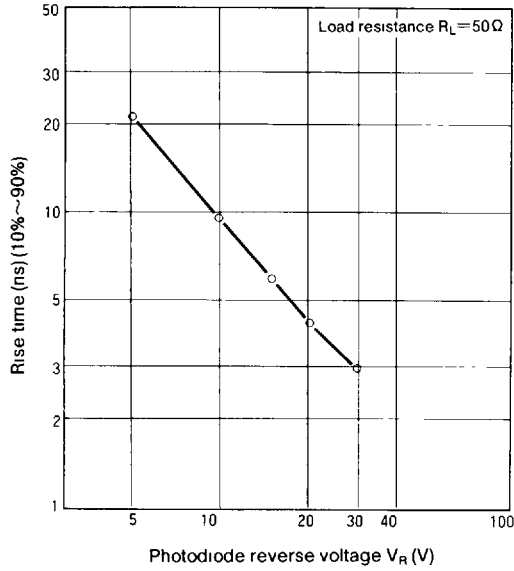
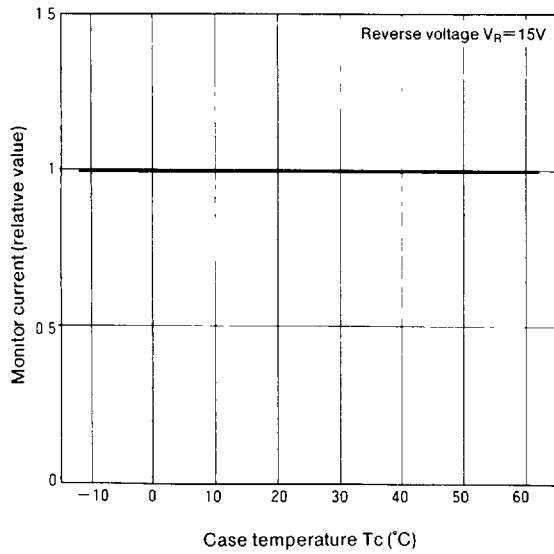


Fig. 95-2 Photodiode Temperature Characteristic



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)

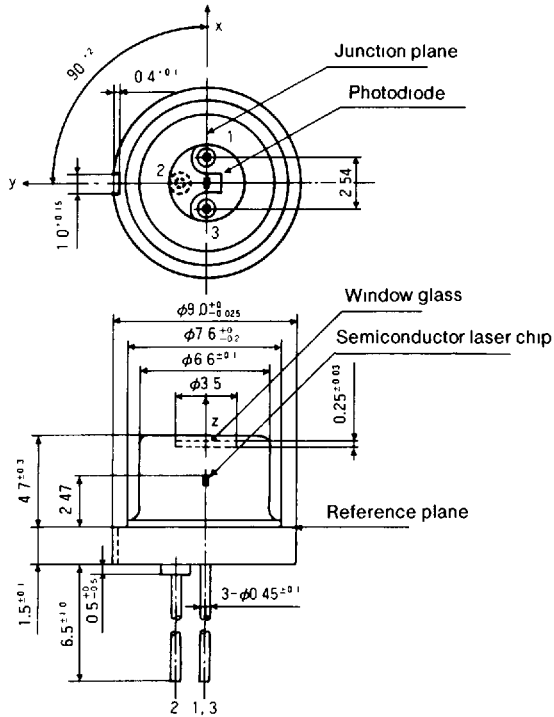


Fig. 98-2 Low-Cap Type (D Type)

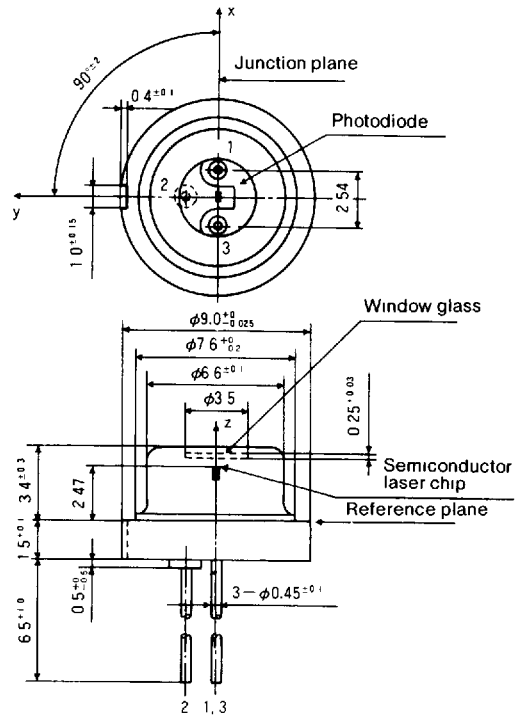


Fig. 98-3 Fin-Equipped Type (F Type)

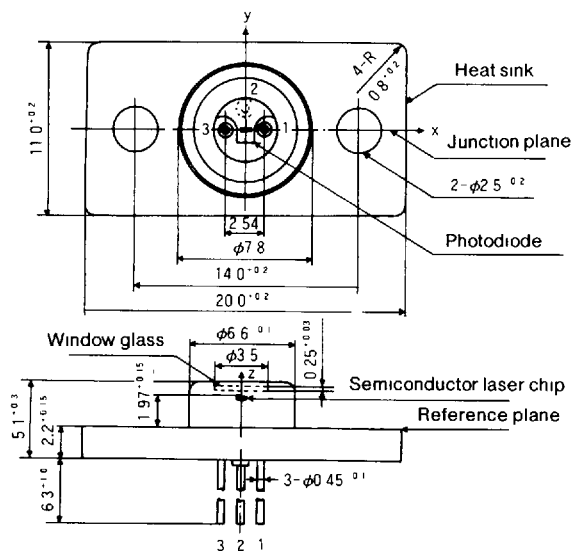
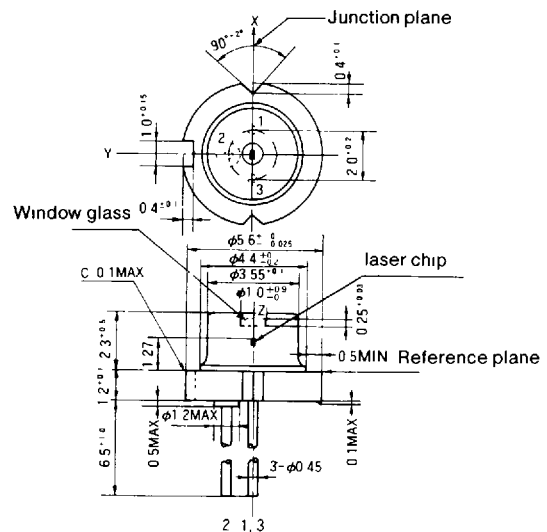


Fig. 98-4 Compact Package Type (S Type)



Terminal connections

