

INFRARED LASER DIODE



DL-7140-001S

Ver.1 Jan. 2002

Features

- Wavelength : 785 nm (Typ.)
- Low threshold current : $I_{th} = 30$ mA (Typ.)
- High operating temperature : 60°C at 70mW(CW)

Applications

Optical disc system (CD-R)

Absolute Maximum Ratings

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

| Parameter | | Symbol | Ratings | Unit |
|-----------------------|---------------------|---------------|------------|------|
| Light Output | CW | P_o (CW) | 80 | mW |
| | Pulse ¹⁾ | P_o (pulse) | 85 | |
| Reverse Voltage | Laser | VR | 2 | V |
| | PD | | 30 | |
| Operating Temperature | | T_{opr} | -10 to +60 | °C |
| Storage Temperature | | T_{stg} | -40 to +85 | °C |

1) Pulse Width 1.0µs, Duty 50%

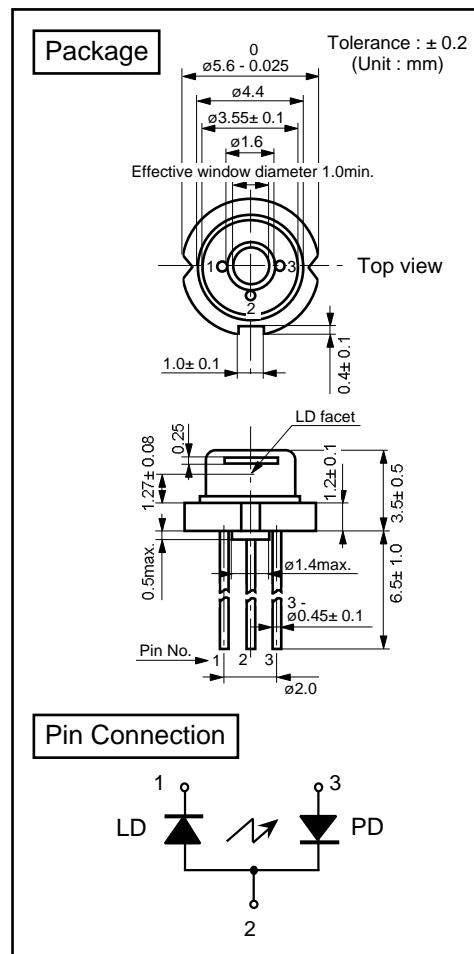
Electrical and Optical Characteristics

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

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|-------------------------------|---------------|----------------|-------------------|------|------|------|-------|
| Threshold Current | | I_{th} | CW | - | 30 | 50 | mA |
| Operating Current | | I_{op} | $P_o=70\text{mW}$ | - | 100 | 140 | mA |
| Operating Voltage | | V_{op} | $P_o=70\text{mW}$ | - | 2.0 | 2.5 | V |
| Lasing Wavelength | | L_p | $P_o=70\text{mW}$ | 780 | 785 | 800 | nm |
| Beam ²⁾ Divergence | Perpendicular | Q_v | $P_o=70\text{mW}$ | 15 | 17 | 20 | ° |
| | Parallel | Q_h | $P_o=70\text{mW}$ | 6 | 8 | 10 | ° |
| Off Axis Angle | Perpendicular | dQ_v | - | - | - | ± 3 | ° |
| | Parallel | dQ_h | - | - | - | ± 2 | ° |
| Differential Efficiency | | dP_o/dI_{op} | - | 0.6 | 1.0 | 1.4 | mW/mA |
| Monitoring Output Current | | I_m | $P_o=70\text{mW}$ | 0.10 | 0.25 | 0.6 | mA |
| Astigmatism | | A_s | $P_o=70\text{mW}$ | - | - | 10 | µm |

2) Full angle at half maximum

Note : The above product specification are subject to change without notice.



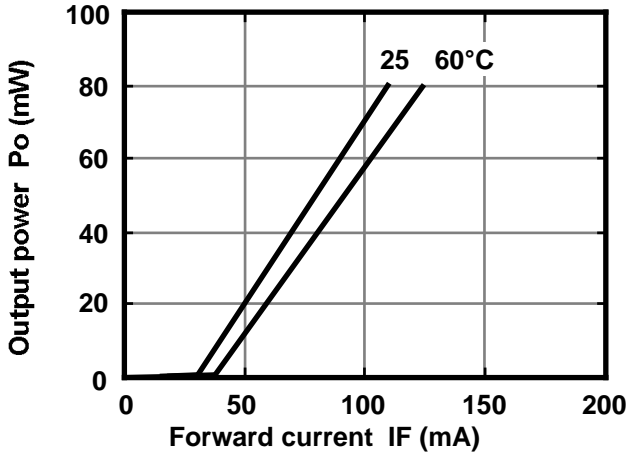
Tottori SANYO Electric Co., Ltd. Electronic Device Business Headquarters

LED Division

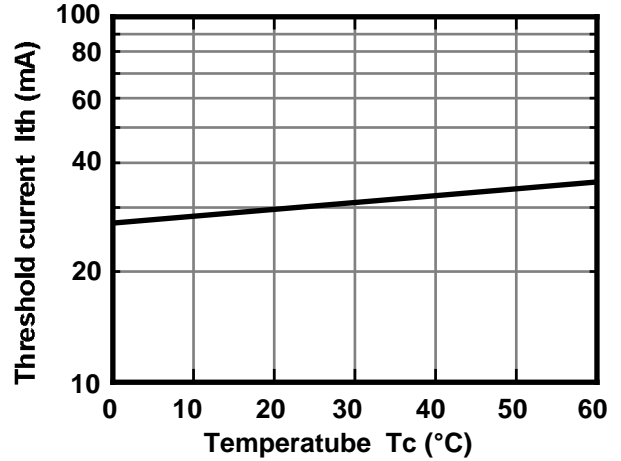
5-318, Tachikawa, Tottori 680-8634 Japan TEL : +81-857-21-2137 FAX : +81-857-21-2161

Characteristics

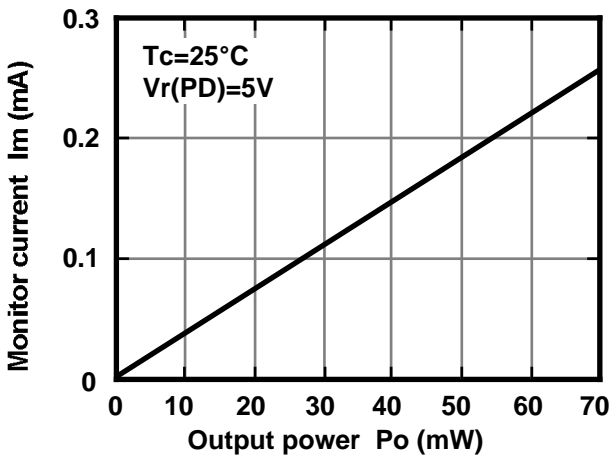
Output power vs. Forward current



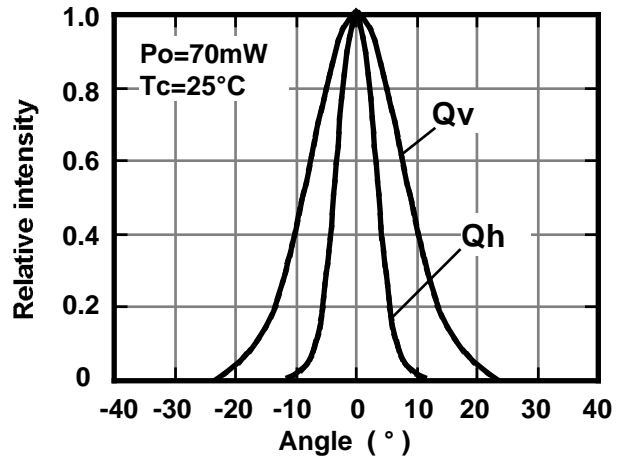
Threshold current vs. Temperature



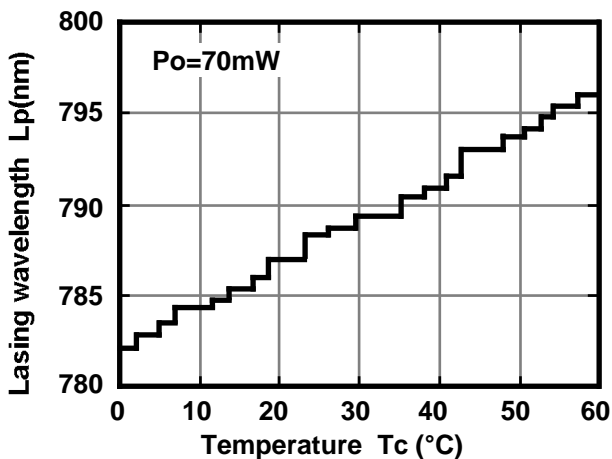
Monitor current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength

