

# RED LASER DIODE

## DL-3147-260

# SANYO

Ver.1 Nov. 2003

### Features

- Wavelength : 650 nm (Typ.)
- Low threshold current :  $I_{th} = 20\text{mA}$  (Typ.)
- High operating temperature : 5 mW at 70°C
- TE mode

### Applications

DVD-ROM/PLAYER  
Laser module  
industrial instrument

### Absolute Maximum Ratings

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

| Parameter             |       | Symbol    | Ratings    | Unit |
|-----------------------|-------|-----------|------------|------|
| Light Output          | CW    | $P_o$     | 7          | mW   |
| Reverse Voltage       | Laser | VR        | 2          | V    |
|                       | PD    |           | 30         |      |
| Operating Temperature |       | $T_{opr}$ | -10 to +70 | °C   |
| Storage Temperature   |       | $T_{stg}$ | -40 to +85 | °C   |

### Electrical and Optical Characteristics <sup>1) 2)</sup>

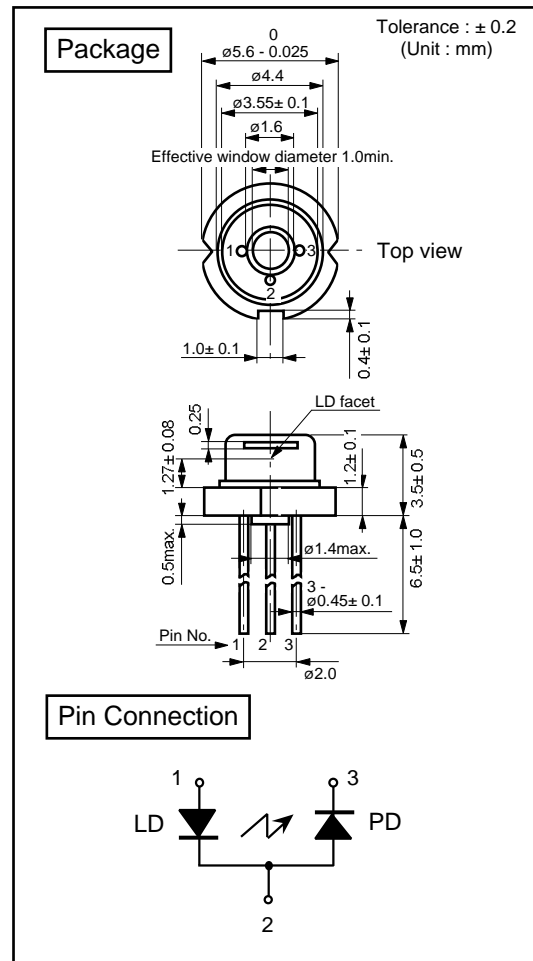
( $T_c=25^\circ\text{C}$ )

| Parameter                        |               | Symbol         | Condition        | Min. | Typ. | Max.    | Unit          |
|----------------------------------|---------------|----------------|------------------|------|------|---------|---------------|
| Threshold Current                |               | $I_{th}$       | CW               | -    | 20   | 35      | mA            |
| Operating Current                |               | $I_{op}$       | $P_o=5\text{mW}$ | -    | 30   | 45      | mA            |
| Operating Voltage                |               | $V_{op}$       | $P_o=5\text{mW}$ | -    | 2.3  | 2.6     | V             |
| Lasing Wavelength                |               | $L_p$          | $P_o=5\text{mW}$ | 645  | 650  | 660     | nm            |
| Beam <sup>3)</sup><br>Divergence | Perpendicular | $Q_v$          | $P_o=5\text{mW}$ | 25   | 30   | 35      | °             |
|                                  | Parallel      | $Q_h$          | $P_o=5\text{mW}$ | 7.0  | 8.0  | 10      | °             |
| Off Axis<br>Angle                | Perpendicular | $dQ_v$         | -                | -    | -    | $\pm 3$ | °             |
|                                  | Parallel      | $dQ_h$         | -                | -    | -    | $\pm 2$ | °             |
| Differential Efficiency          |               | $dP_o/dI_{op}$ | -                | 0.3  | 0.5  | 0.8     | mW/mA         |
| Monitoring Output Current        |               | $I_m$          | $P_o=5\text{mW}$ | 0.08 | 0.15 | 0.4     | mA            |
| Astigmatism                      |               | $A_s$          | $P_o=5\text{mW}$ | -    | 8    | -       | $\mu\text{m}$ |

1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus

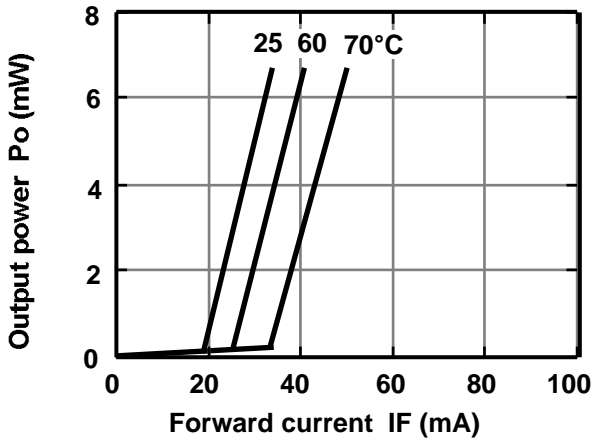
3) Full angle at half maximum

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

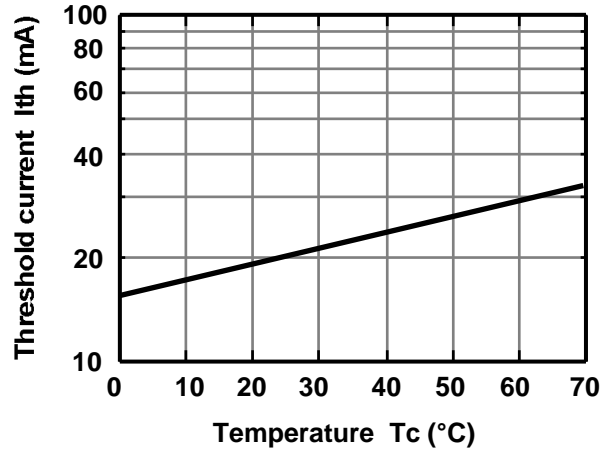


## Characteristics

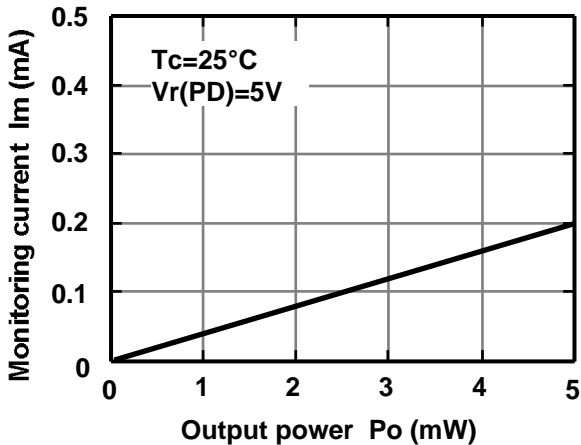
Output power vs. Forward current



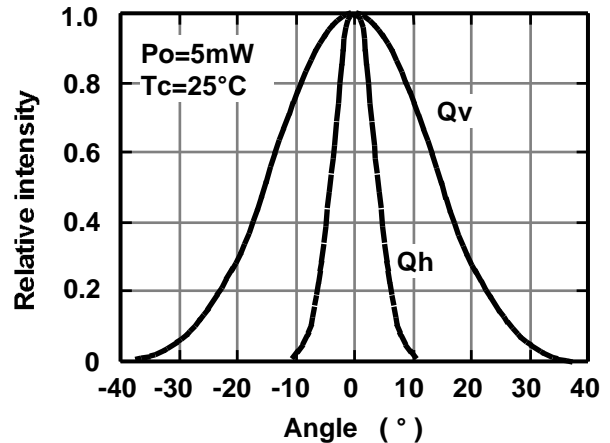
Threshold current vs. Temperature



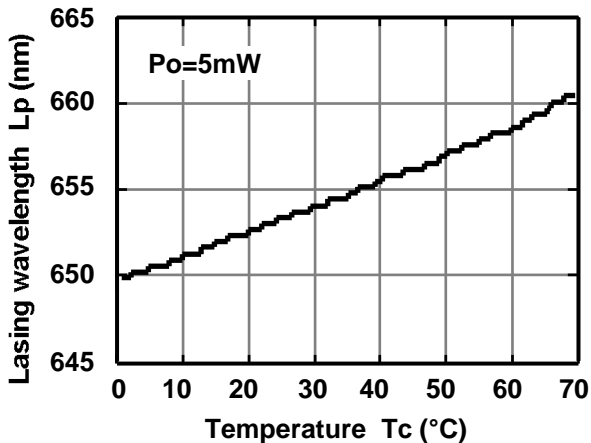
Monitoring current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power

