

RED LASER DIODE

DL-3147-031

SANYO

Ver.1 Apr. 2001

Features

- Short wavelength : 650 nm (Typ.)
- Low threshold current : $I_{th} = 25$ mA (Typ.)
- TE mode

Applications

Bar-code scanner

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 +50 | $^\circ\text{C}$ |
| Storage Temperature | | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

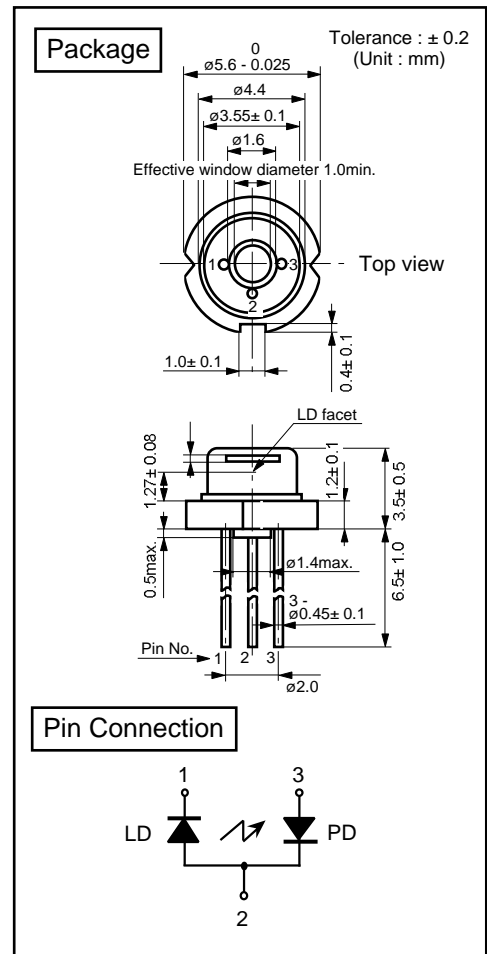
Electrical and Optical Characteristics⁽¹⁾⁽²⁾

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

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|-------------------------------|---------------|----------------|------------------|------|------|---------|---------------|
| Threshold Current | | I_{th} | CW | - | 25 | 40 | mA |
| Operating Current | | I_{op} | $P_o=5\text{mW}$ | - | 35 | 50 | 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 ³⁾ Divergence | Perpendicular | Q_v | $P_o=5\text{mW}$ | 25 | 30 | 35 | $^\circ$ |
| | Parallel | Q_h | $P_o=5\text{mW}$ | 7.0 | 8.0 | 10 | $^\circ$ |
| Off Axis Angle | Perpendicular | dQ_v | - | - | - | ± 3 | $^\circ$ |
| | Parallel | dQ_h | - | - | - | ± 2 | $^\circ$ |
| Differential Efficiency | | dP_o/dI_{op} | - | 0.3 | 0.5 | 0.8 | mW/mA |
| Monitoring Output Current | | I_m | $P_o=5\text{mW}$ | 0.1 | 0.2 | 0.4 | mA |
| Astigmatism | | A_s | $P_o=5\text{mW}$ | - | 8 | - | μm |

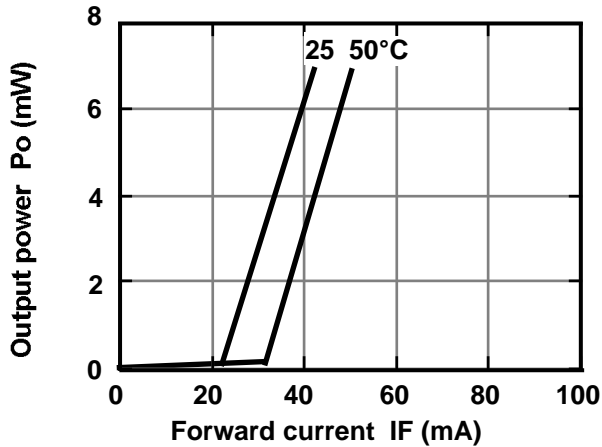
1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus

3) Full angle at half maximum Note : The above product specification are subject to change without notice.

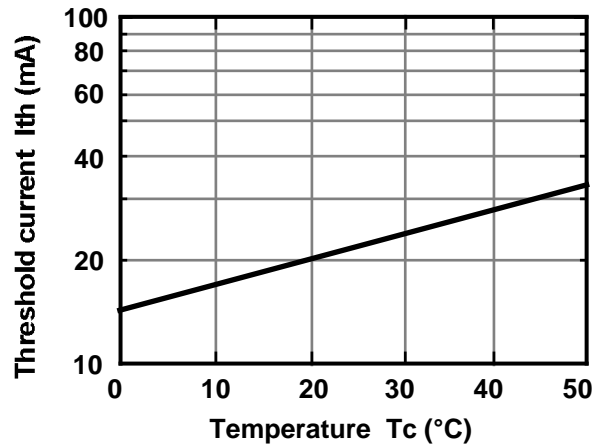


Characteristics

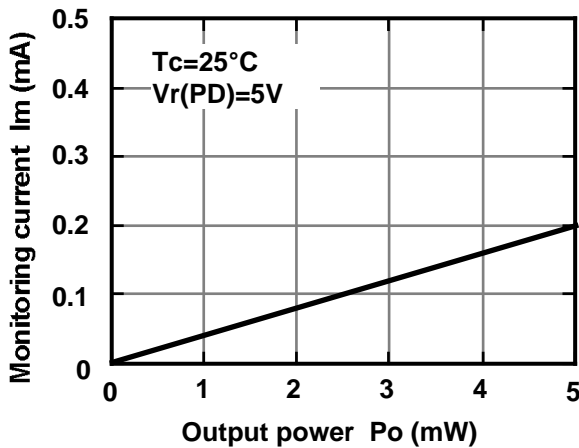
Output power vs. Forward current



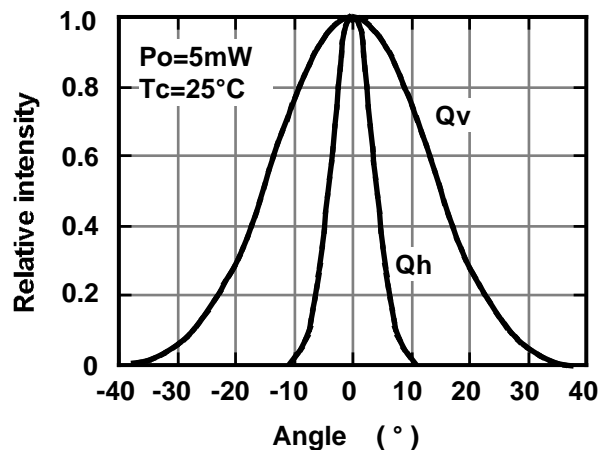
Threshold current vs. Temperature



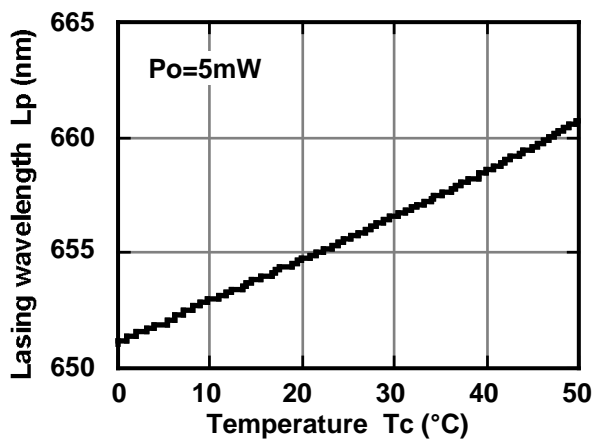
Monitoring current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power

