

### Features

- Short wavelength : 635 nm (Typ.)
- High output power : 30 mW at 40°C
- Low threshold current :  $I_{th} = 50$  mA (Typ.)
- TE mode (Conventional 635nm : TM mode)

### Applications

- Line marker
- Bar-code scanner

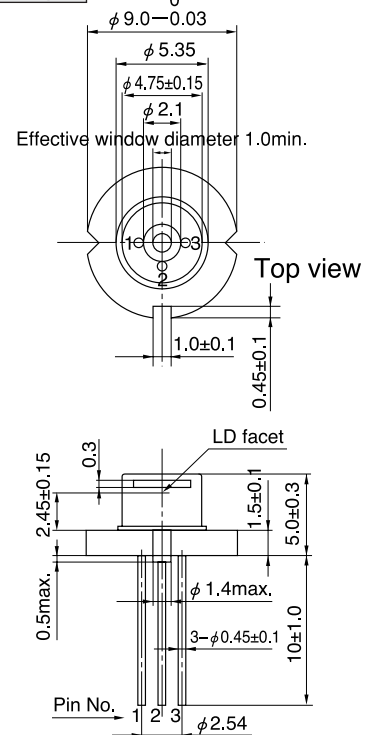
### Absolute Maximum Ratings

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

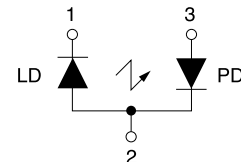
| Parameter             |    | Symbol    | Ratings    | Unit             |
|-----------------------|----|-----------|------------|------------------|
| Light Output          | CW | $P_o$     | 35         | mW               |
| Reverse Voltage       | LD | $V_R$     | 2          | V                |
|                       | PD |           | 30         |                  |
| Operating Temperature |    | $T_{opr}$ | -10 to +40 | $^\circ\text{C}$ |
| Storage Temperature   |    | $T_{stg}$ | -40 to +85 | $^\circ\text{C}$ |

### Package

Tolerance :  $\pm 0.2$   
Unit : mm



### Pin Connection



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

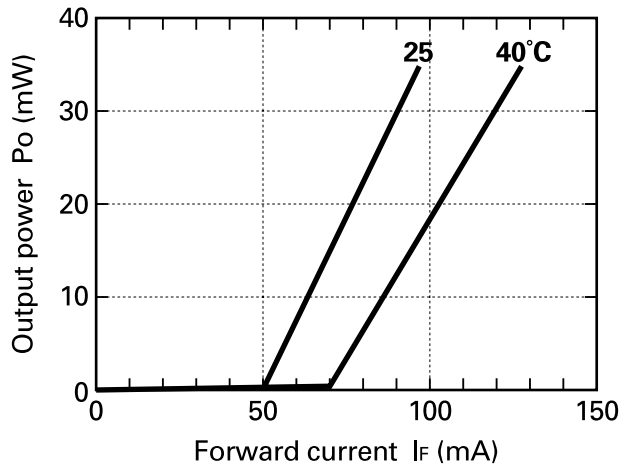
( $T_c = 25^\circ\text{C}$ )

| Parameter                     |               | Symbol                 | Condition           | Min. | Typ. | Max.    | Unit          |
|-------------------------------|---------------|------------------------|---------------------|------|------|---------|---------------|
| Threshold Current             |               | $I_{th}$               | CW                  | —    | 50   | 70      | mA            |
| Operating Current             |               | $I_{op}$               | $P_o = 30\text{mW}$ | —    | 90   | 110     | mA            |
| Operating Voltage             |               | $V_{op}$               | $P_o = 30\text{mW}$ | —    | 2.4  | 2.7     | V             |
| Lasing Wavelength             |               | $\lambda_p$            | $P_o = 30\text{mW}$ | —    | 635  | 645     | nm            |
| Beam Divergence <sup>3)</sup> | Perpendicular | $\theta_{\perp}$       | $P_o = 30\text{mW}$ | 25   | 30   | 35      | $^\circ$      |
|                               | Parallel      | $\theta_{//}$          | $P_o = 30\text{mW}$ | 6    | 7    | 9       | $^\circ$      |
| Off Axis Angle                | Perpendicular | $\Delta\theta_{\perp}$ | —                   | —    | —    | $\pm 3$ | $^\circ$      |
|                               | Parallel      | $\Delta\theta_{//}$    | —                   | —    | —    | $\pm 3$ | $^\circ$      |
| Differential Efficiency       |               | $dP_o/dI_{op}$         | —                   | —    | 0.7  | —       | mW/mA         |
| Monitoring Output Current     |               | $I_m$                  | $P_o = 30\text{mW}$ | 0.1  | 0.3  | 0.6     | mA            |
| Astigmatism                   |               | $A_s$                  | $P_o = 30\text{mW}$ | —    | 10   | —       | $\mu\text{m}$ |

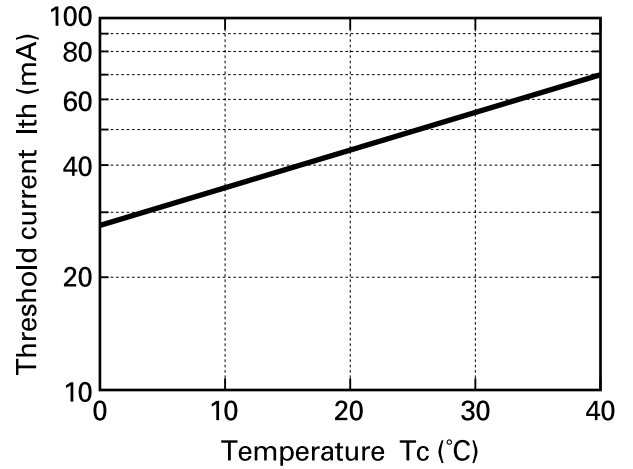
1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus 3) Full angle at half maximum  
Note : The above product specifications are subject to change without notice.

## Characteristics

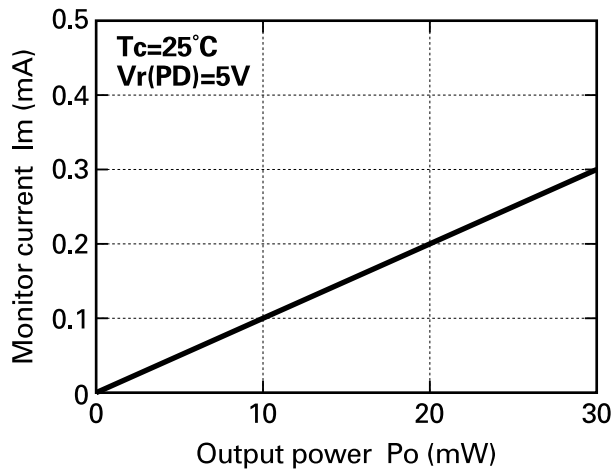
Output power vs. Forward current



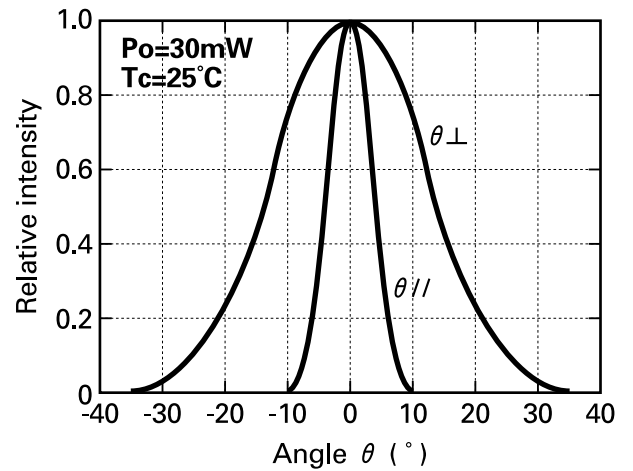
Threshold current vs. Temperature



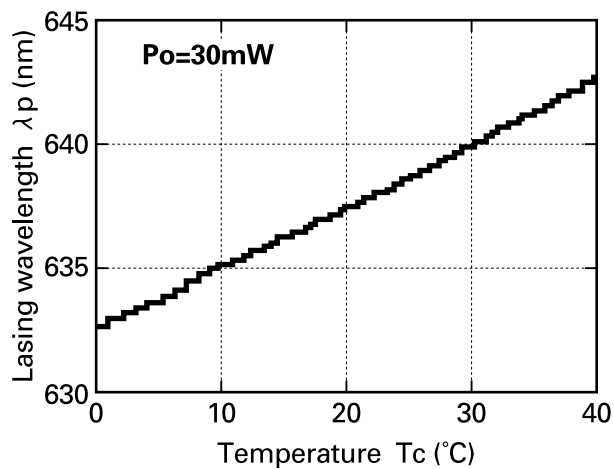
Monitor current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power

