

**DL-4140-001S****Infrared Laser Diode****Features**

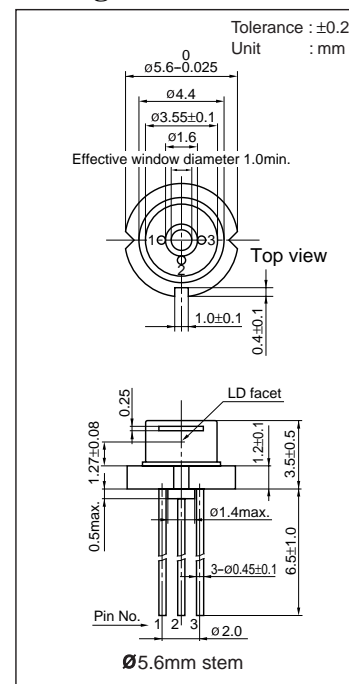
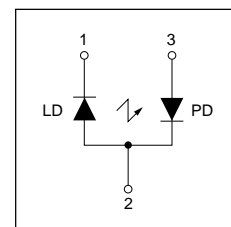
- Wavelength : 785 nm (Typ.)
- Low threshold current : $I_{th} = 30$ mA (Typ.)
- Small package : $\phi 5.6$ mm

Applications

- Laser beam printer

Absolute Maximum Ratings at $T_c=25^\circ\text{C}$

| Parameter | | Symbol | Ratings | Unit |
|-----------------------|-------|-----------|------------|------------------|
| Light Output | CW | P_o | 25 | mW |
| Reverse Voltage | Laser | V_R | 2 | V |
| | PIN | | 30 | |
| Operating Temperature | | T_{opr} | -10 to +60 | $^\circ\text{C}$ |
| Storage Temperature | | T_{stg} | -20 to +85 | $^\circ\text{C}$ |

Package Dimensions**Pin Connection****Electrical and Optical Characteristics 2) 3) 4) 6) at $T_c=25^\circ\text{C}$**

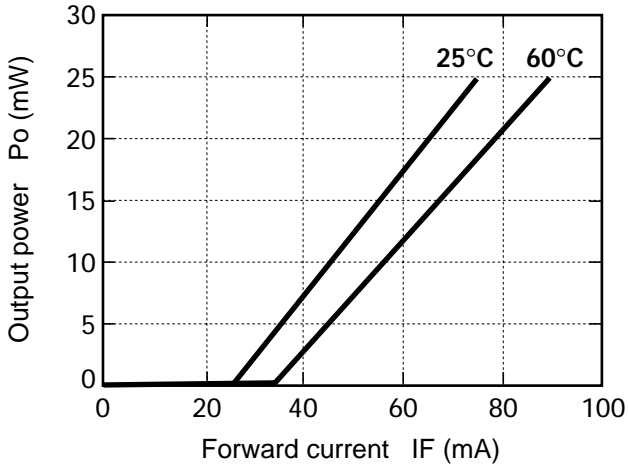
| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------------|------------------|------------------------|-------------------|------|------|---------|---------------|
| Threshold Current | | I_{th} | CW | - | 30 | 50 | mA |
| Operating Current | | I_{op} | $P_o=20\text{mW}$ | - | 65 | 90 | mA |
| Lasing Wavelength | | λ_p | $P_o=20\text{mW}$ | 776 | 785 | 800 | nm |
| Beam Divergence | 1) Perpendicular | θ_{\perp} | $P_o=20\text{mW}$ | 15 | 25 | 35 | $^\circ$ |
| | Parallel | $\theta_{//}$ | $P_o=20\text{mW}$ | 7 | 9 | 12 | $^\circ$ |
| Off Axis Angle | Perpendicular | $\Delta\theta_{\perp}$ | $P_o=20\text{mW}$ | - | - | ± 3 | $^\circ$ |
| | Parallel | $\Delta\theta_{//}$ | $P_o=20\text{mW}$ | - | - | ± 2 | $^\circ$ |
| Differential Efficiency | | dP_o/dI_{op} | - | 0.3 | 0.6 | 0.8 | mW/mA |
| Monitoring Output Current | | I_m | $P_o=20\text{mW}$ | 0.3 | 0.8 | 1.5 | mA |
| Astigmatism | | A_s | $P_o=20\text{mW}$ | - | - | 10 | μm |
| Droop | | Δp | $P_o=20\text{mW}$ | - | - | 10 | % |

1) Full angle at half maximum

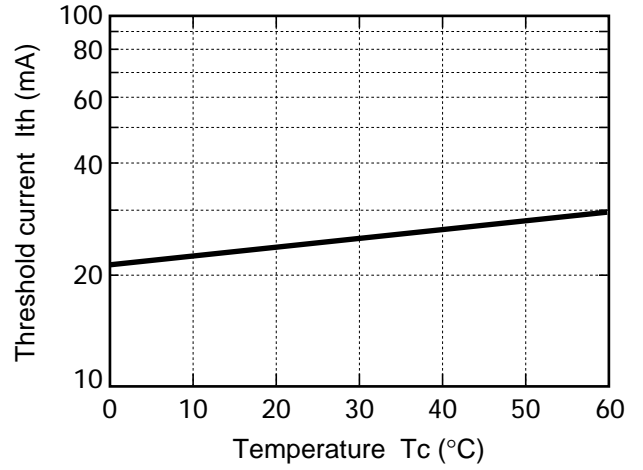
Note : The above product specification are subject to change without notice.

Characteristics

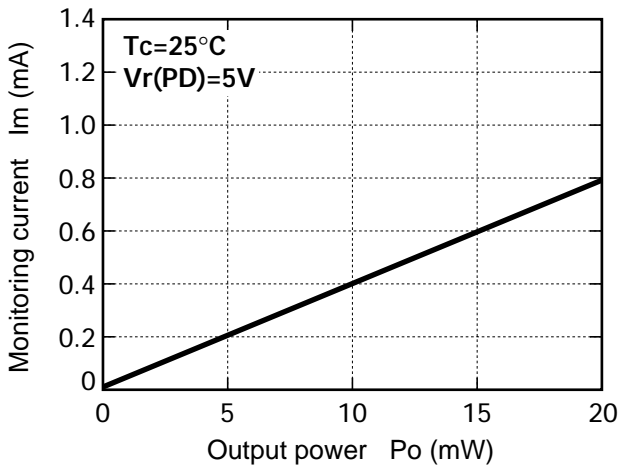
Output power vs. Forward current



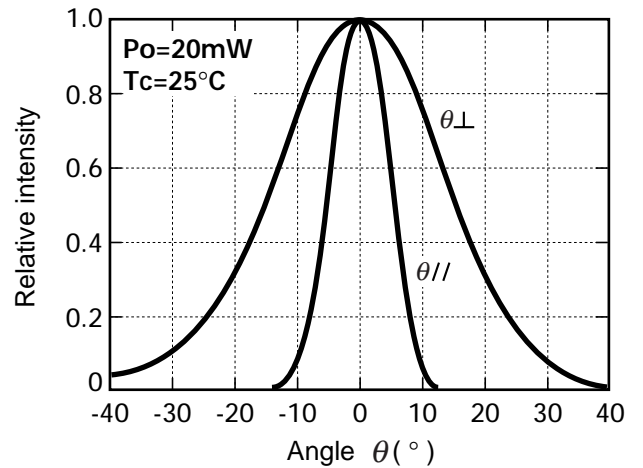
Threshold current vs. Temperature



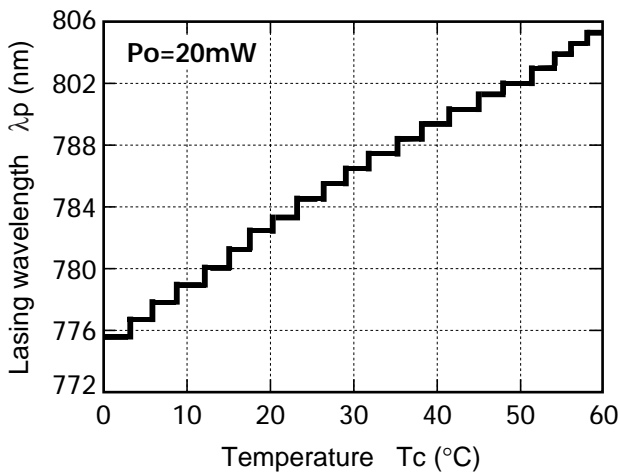
Monitoring current vs. Output power



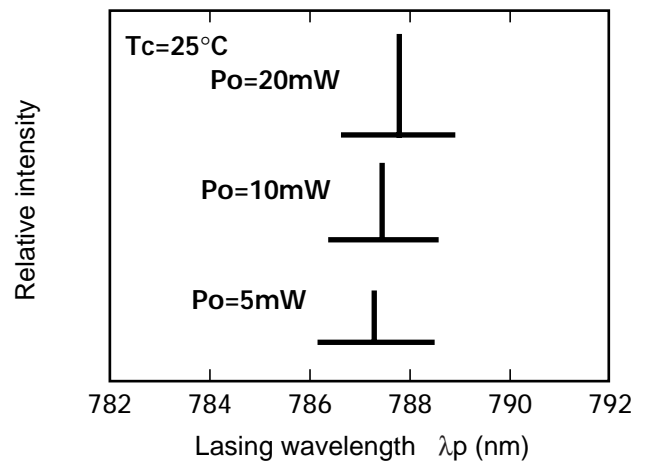
Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power



 **CAUTION**

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Precautionary instructions in handling gallium arsenic products

Special precautions must be taken in handling this product because it contains, gallium arsenic, which is designated as a toxic substance by law. Be sure to adhere strictly to all applicable laws and regulations enacted for this substance, particularly when it comes to disposal.

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