Ordering number : ENN7586

Infrared Laser Diode

# DL-7140-201P

## Infrared Laser Diode

### Features

- Wavelength : 783 nm (Typ.)
- Low threshold current : Ith = 40 mA (Typ.)
- High operating temperature : 200 mW (Pulse)
- Small package : ø 5.6 mm

### Applications

- Optical disc system (CD-R)

### Usage condition

- CW : <90 mW  Pulse : <200 mW (peak power)

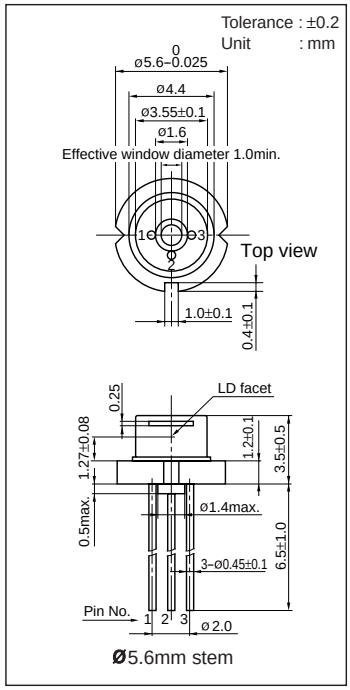
### Absolute Maximum Ratings at Tc=25°C

| Parameter | | Symbol | Ratings | Unit |
|---|---|---|---|---|
| Light Output | CW | Po (CW) | 90 | mW |
| | Pulse 1) | Po (pulse) | 200 | |
| Reverse Voltage (LD) | | VR | 2 | V |
| Operating Temperature | CW 2) | Topr | –10 to +60 | °C |
| | Pulse 1) 2) | Topr | –10 to +70 | |
| Storage Temperature | | Tstg | –40 to +85 | °C |

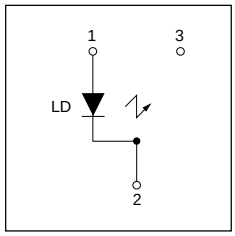
1) Pulse width≤70 ns, Duty 50%, Peak power

2) Case temperature

### Package Dimensions




### Pin Connection




### Electrical and Optical Characteristics 3) 4) 5) 7) at Tc=25°C

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Threshold Current | | Ith | CW | 25 | 40 | 60 | mA |
| Operating Current | Tc=25°C | Iop | Po=70mW | 80 | 110 | 140 | mA |
| Lasing Wavelength | | λ p | Po=70mW | 778 | 783 | 788 | nm |
| Beam 6) Divergence | Perpendicular | θ ⊥ | Po=70mW | 14 | 16 | 18 | ° |
| | Parallel | θ // | Po=70mW | 7.5 | 8.5 | 9.0 | ° |
| Off Axis Angle | Perpendicular | Δ θ ⊥ | Po=70mW | - | - | ±2.0 | ° |
| | Parallel | Δ θ // | Po=70mW | - | - | ±1.5 | ° |
| Differential Efficiency | | dPo/dIop | Po=70mW | 0.8 | 1.1 | 1.3 | mW/mA |
| Astigmatism | | As | Po=70mW | - | - | 5 | µm |

3) Initial values  4) All the above values are evaluated with Tottori Sanyo's measuring apparatus

5) Reference values  6) Full angle at half maximum  7) Measured at CW

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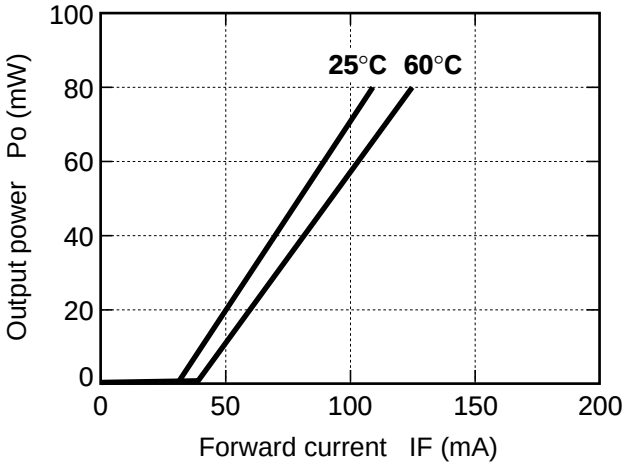
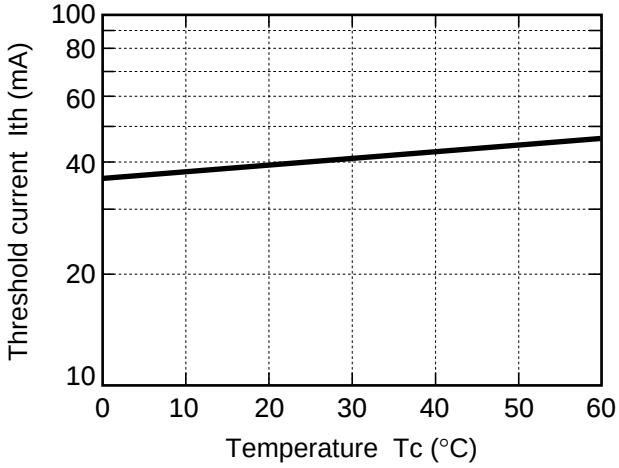
## Characteristics

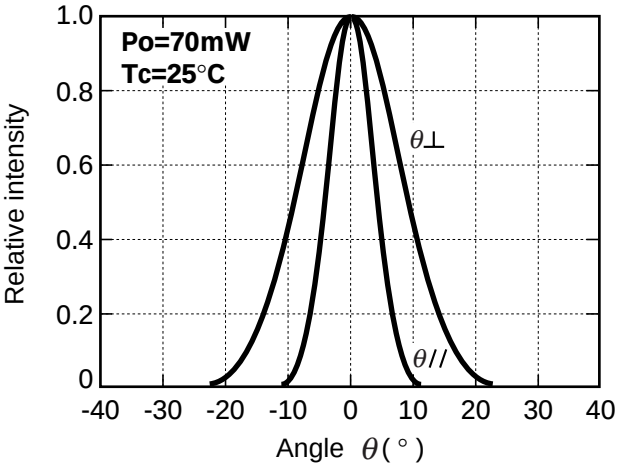
### Output power vs. Forward current



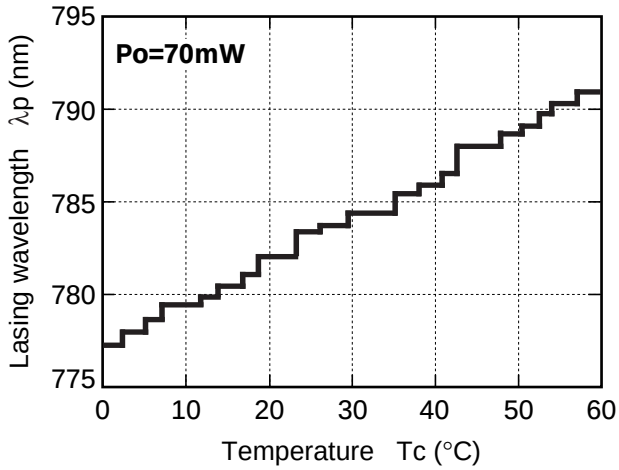

### Threshold current vs. Temperature



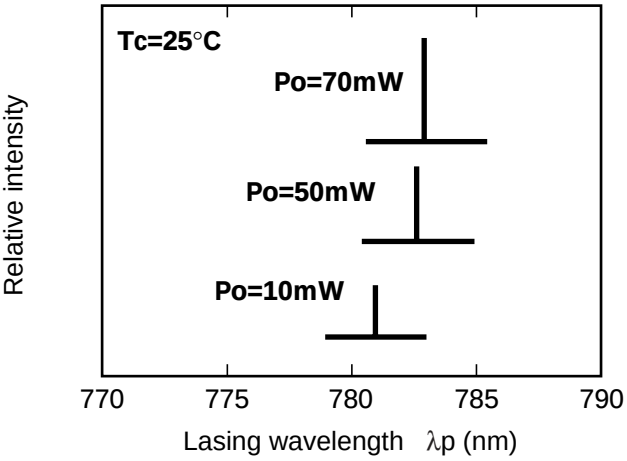

### Beam divergence




### Lasing wavelength vs. Temperature




### Lasing wavelength vs. Output power



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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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