

## 635nm 10mW 40°C Reliable Operation

### • Features

1. High visibility
2. MTTF > 5000hrs
3. Small perpendicular divergence angle

### • Applications

1. Industrial laser markers
2. Survey and engineering instruments
3. Class I, eye-safe laser pointer
4. High visibility LD display

### • Absolute maximum ratings

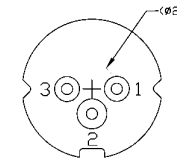
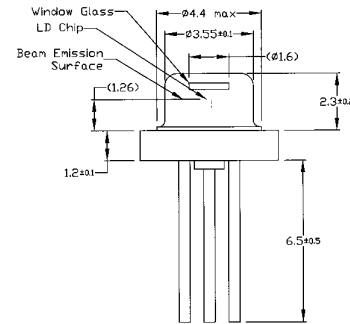
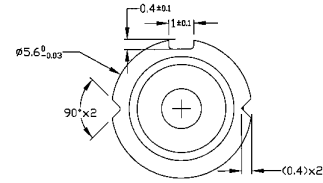
| Parameter            | Symbol          | Condition | Rating  | Unit |
|----------------------|-----------------|-----------|---------|------|
| Light output power   | P <sub>O</sub>  | CW        | 12      | mW   |
| Reverse voltage (LD) | V <sub>RL</sub> | -         | 2       | V    |
| Reverse voltage (PD) | V <sub>RD</sub> | -         | 30      | V    |
| Forward current (PD) | I <sub>FD</sub> | -         | 10      | mA   |
| Case temperature     | T <sub>C</sub>  | -         | -10~+40 | °C   |
| Storage temperature  | T <sub>S</sub>  | -         | -40~+75 | °C   |

### • Electrical and optical characteristics (T<sub>c</sub>=25 °C)

| Parameter                         | Symbol          | Min. | Typ.  | Max. | Unit  | Conditions                                |
|-----------------------------------|-----------------|------|-------|------|-------|---|
| Peak wavelength                   |                 | 630  | 638.5 | 642  | nm    | P <sub>o</sub> =10mW                      |
| Threshold current                 | I <sub>th</sub> | -    | 30    | 40   | mA    |   |
| Operating current                 | I <sub>op</sub> | -    | 50    | 60   | mA    | P <sub>o</sub> =10mW                      |
| Operating voltage                 | V <sub>op</sub> | -    | 2.15  | 2.5  | V     | P <sub>o</sub> =10mW                      |
| Differential efficiency           |                 | 0.30 | 0.50  | 0.70 | mW/mA | P <sub>o</sub> =5-10mW                    |
| Monitor current                   | I <sub>m</sub>  | 0.03 | 0.1   | 0.5  | mA    | P <sub>o</sub> =10mW, V <sub>RD</sub> =5V |
| Parallel divergence angle         | //              | 6    | 7.5   | 11   | deg   |   |
| Perpendicular divergence angle    |                 | 25   | 28.5  | 35   | deg   |   |
| Parallel FFP deviation angle      | //              | -    | -     | ±2.9 | deg   | P <sub>o</sub> =10mW                      |
| Perpendicular FFP deviation angle |                 | -    | -     | ±2.9 | deg   |   |
| Emission point accuracy           | x y z           | -    | -     | ±80  | um    |   |

### • Precautions

1. Do not operate the device above the maximum rating condition, even momentarily. It may cause unexpected permanent damage to the device.
2. Semiconductor laser device is very sensitive to electrostatic discharge. High voltage spike current may change the characteristics of the device, or malfunction at any time during its service period. Therefore, proper measures for preventing electrostatic discharge are strongly recommended.
3. Effective heat sink can help the device operates under a more relax condition; as a result, a more stable characteristics and better reliability can be achieved. So it is recommended that always apply proper heat sink before the device is operating.



( ) denoted typical value

