

**MITSUBISHI LASER DIODES**  
**ML9XX10 SERIES**

**InGaAsP — MQW HIGH POWER LASER DIODES**

**TYPE  
NAME**

**ML976H10**

**DESCRIPTION**

ML9XX10 series are InGaAsP high power laser diodes which provides a stable, single transverse mode oscillation with emission wavelength of 1550nm and pulse light output of 200mW.

**FEATURES**

- High power (Pulse 200mW)
- 1550nm typical emission wavelength
- Stable single transverse mode oscillation
- Low threshold current, low operating current
- High reliability, long operation life
- MQW\* active layer
- \* : Multiple Quantum Well

**APPLICATION**

OTDR systems

**ABSOLUTE MAXIMUM RATINGS**

| Symbol           | Parameter           | Conditions     | Ratings  | Unit |
|------------------|---------------------|----------------|----------|------|
| I <sub>F</sub>   | Forward current     | Pulse (Note 1) | 1000     | mA   |
| V <sub>RL</sub>  | Reverse Voltage     | —              | 2        | V    |
| T <sub>C</sub>   | Case temperature    | —              | −40~+50  | °C   |
| T <sub>stg</sub> | Storage temperature | —              | −40~+100 | °C   |

Note 1: Duty cycle less than 1%, pulse width less than 10 μs

**ELECTRICAL/OPTICAL CHARACTERISTICS (T<sub>C</sub> = 25°C)**

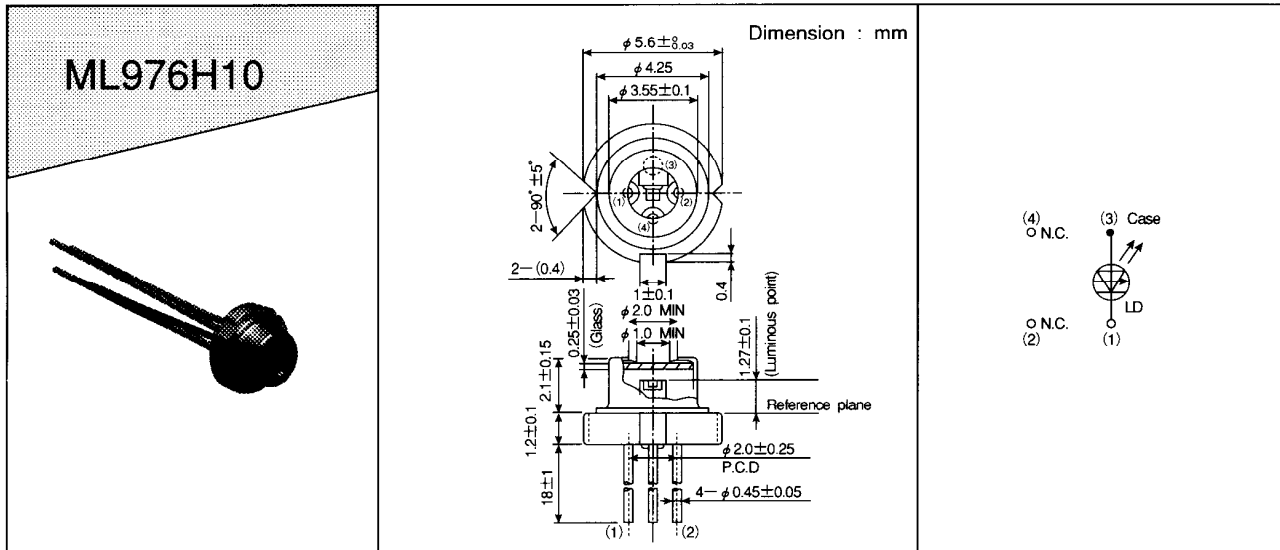
| Symbol              | Parameter                             | Test conditions                        | Limits |      |      | Unit |
|---------------------|---------------------------------------|----------------------------------------|--------|------|------|------|
|                     |                                       |                                        | Min.   | Typ. | Max. |      |
| I <sub>th</sub>     | Threshold current                     | CW                                     | —      | 30   | 50   | mA   |
| I <sub>OP</sub>     | Operating current                     | CW, P <sub>O</sub> = 10mW              | —      | 50   | 180  | mA   |
| V <sub>OP (P)</sub> | Operating voltage                     | Pulse, I <sub>F</sub> = 700mA (Note 2) | —      | 3    | 4.5  | V    |
| P <sub>O (P)</sub>  | Pulse light output                    | Pulse, I <sub>F</sub> = 700mA (Note 2) | 100    | 200  | —    | mW   |
| λ <sub>c</sub>      | Center wavelength                     | Pulse, I <sub>F</sub> = 700mA (Note 2) | 1520   | 1550 | 1580 | nm   |
| Δλ                  | Spectral width (RMS)                  | Pulse, I <sub>F</sub> = 700mA (Note 2) | —      | 7    | 10   | nm   |
| θ <sub>  </sub>     | Beam divergence angle (parallel)      | CW, P <sub>O</sub> = 10mW              | —      | 25   | —    | deg. |
| θ <sub>⊥</sub>      | Beam divergence angle (perpendicular) | CW, P <sub>O</sub> = 10mW              | —      | 30   | —    | deg. |

Note 2 : Duty cycle = 1%, pulse width = 10 μs

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OUTLINE DRAWINGS



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## TYPICAL CHARACTERISTICS

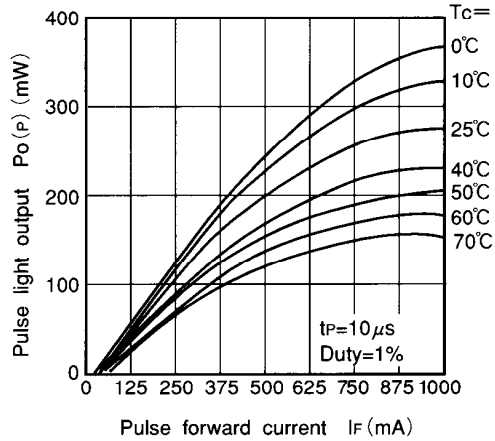


Fig.1 Pulse Light output vs. forward current

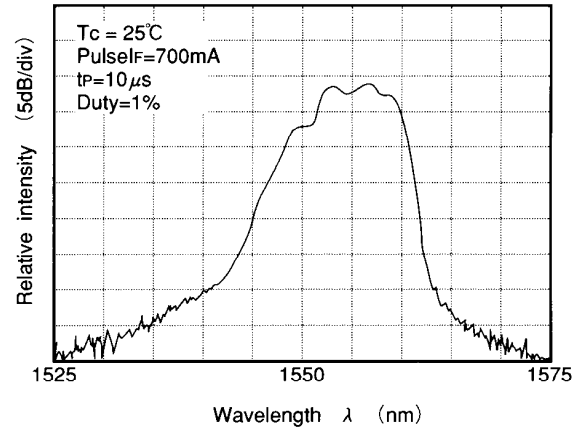


Fig.2 Spectrum

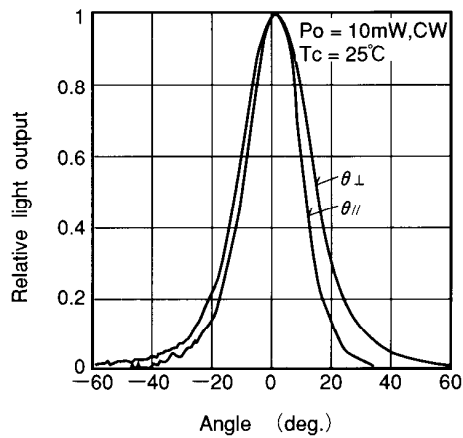


Fig.3 Far field patterns