

**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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TYPICAL CHARACTERISTICS

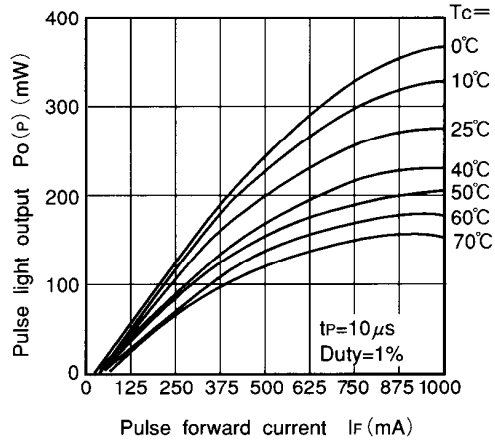


Fig.1 Pulse Light output vs. forward current

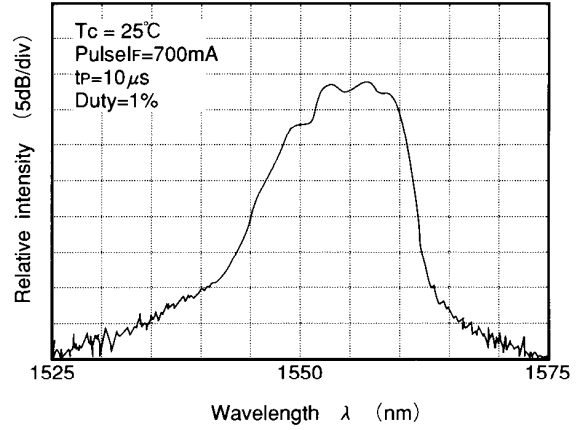


Fig.2 Spectrum

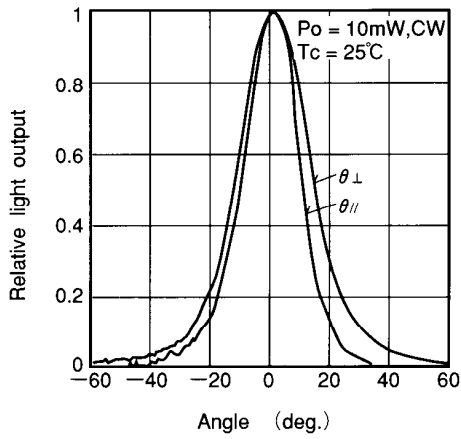


Fig.3 Far field patterns