

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL86T4H-A/B/C/D/E

*Tentative*

**Signature of Approval**

Approved by \_\_\_\_\_

Checked by \_\_\_\_\_

Issued by \_\_\_\_\_

**Approval by Customer**

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# QL86T4H-A/B/C/D/E

*Tentative*

## Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.0 April. 2008

### ◆ OVERVIEW

QL86T4H-A/B/C/D/E is a MOCVD grown 860nm band laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 1W for optoelectronic devices such as Military Sensor and so on.

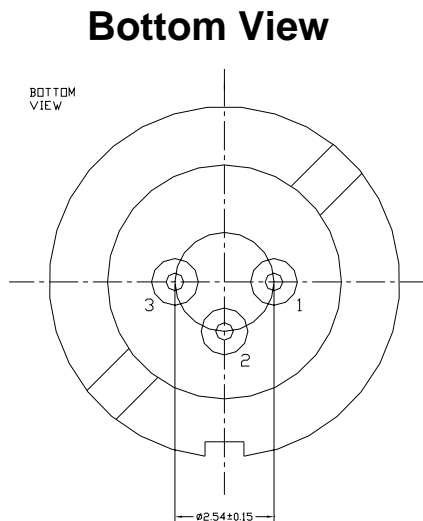
### ◆ APPLICATION

- Medical use
- Material processes
- Measurement
- 

### ◆ FEATURES

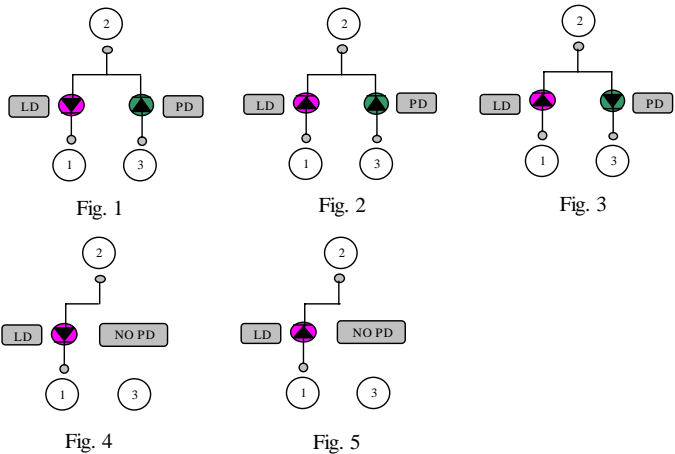
- Optical Output Power : 1W CW
- Package Type : TO-5 ( $\phi$  9mm)
- Polarization : TE ( Electric Field Parallel to the Junction Plane )

### ◆ ELECTRICAL CONNECTION



### Pin Configuration

|   |                               |
|---|-------------------------------|
| A | LD cathode, PD anode (Fig. 1) |
| B | LD, PD anode (Fig. 2)         |
| C | LD anode, PD cathode (Fig. 3) |
| D | LD cathode, No PD (Fig. 4)    |
| E | LD anode, No PD (Fig. 5)      |



*Tentative*

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

| Items                       | Symbols | Values    | Unit |
|-----------------------------|---------|-----------|------|
| Optical Output Power        | P       | 1.2       | W    |
| Laser Diode Reverse Voltage | V       | 2         | V    |
| Photo Diode Reverse Voltage | V       | 30        | V    |
| Operating Temperature       | Topr    | -10 ~ +40 | °C   |
| Storage Temperature         | Tstg    | -40 ~ +85 | °C   |

◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C <sup>1)2)</sup>

| Items                         | Symbols                        | Min. | Typ. | Max. | Unit | Condition |
|-------------------------------|--------------------------------|------|------|------|------|-----------|
| Optical Output Power          | Po                             | -    | 1.0  | -    | W    | -         |
| Threshold Current             | Ith                            | -    | 0.28 | 0.35 | A    | -         |
| Slope Efficiency              | SE                             | -    | 1.0  | 2.0  | W/A  |           |
| Operating Current             | Iop                            | -    | 1.3  | 2.0  | A    | Po=1W     |
| Operating Voltage             | Vop                            | -    | 2.5  | 3.0  | V    | Po=1W     |
| Lasing Wavelength             | $\lambda_p$                    | 850  | 860  | 875  | nm   | Po=1W     |
| Beam Divergence <sup>3)</sup> | $\theta_{  }$                  |      | 9    | 12   | deg  | Po=1W     |
|                               | $\theta_{\perp}$               |      | 30   | 40   | deg  | Po=1W     |
| Beam Angle                    | $\Delta\theta_{  }$            | -    | -    | ±3   | deg  | Po=1W     |
|                               | $\Delta\theta_{\perp}$         | -    | -    | ±3   | deg  | Po=1W     |
| Monitor Current               | I <sub>m</sub>                 | -    | -    | -    | mA   |           |
| Polarization                  | TE Mode                        |      |      |      |      |           |
| Optical Distance              | $\Delta X, \Delta Y, \Delta Z$ | -    | -    | ±80  | μm   | -         |

1) Initial Values      2) All above values are evaluated with QSI's measuring apparatus

3) Full Width at Half Maximum

**NOTICE : QL80T4H-A/B/C/D/E to be operated on APC circuit.**

**The above product specifications are subject to change without notice.**

