

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

**Customer :**

**Model : QL84S6SL**

**Signature of Approval**

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

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

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

**Approval by Customer**

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# QL84S6SL

## Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 1. 2015

### ◆ OVERVIEW

QL84S6SL is a MOCVD grown 845nm band laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 450mW for optoelectronic devices such as gesture recognition and 3D sensing.

### ◆ APPLICATION

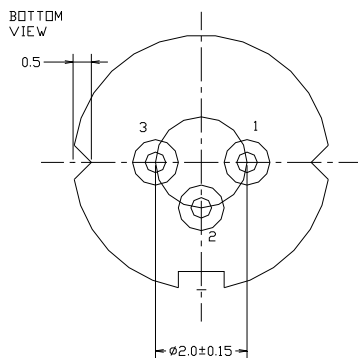
- Gesture recognition
- 3D sensing

### ◆ FEATURES

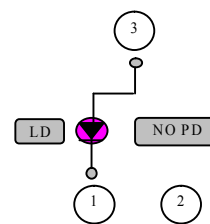
- Wavelength :  $\lambda_p = 845 \text{ nm}$
- Optical Output Power : 450mW (CW)
- Package Type : TO-18 ( $\phi 5.6\text{mm}$ )

### ◆ ELECTRICAL CONNECTION

#### Bottom View



#### Pin Configuration



1. Cathode (-)
2. Not conncted
3. Anode (+)

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

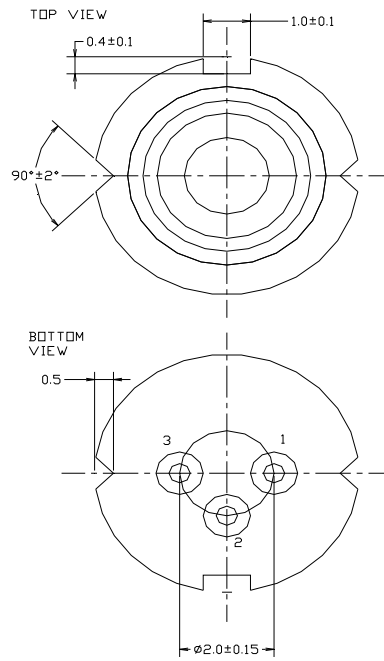
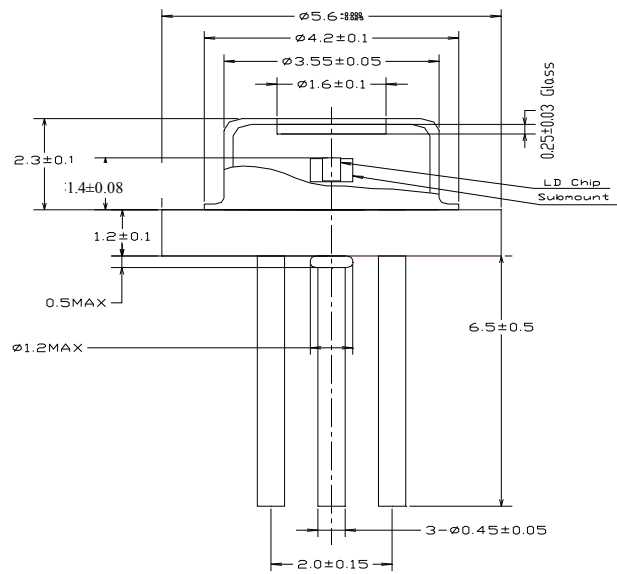
| Items                       | Symbols | Values    | Unit |
|-----------------------------|---------|-----------|------|
| Optical Output Power        | P       | 500       | mW   |
| Laser Diode Reverse Voltage | V       | 2         | V    |
| Operating Temperature       | Topr    | -10 ~ +60 | °C   |
| 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                             | -    | 450  | -    | mW    | -         |
| Threshold Current    | Ith                            | -    | 140  | 160  | mA    | -         |
| Operating Current    | Iop                            | -    | 530  | 550  | mA    | Po=450mW  |
| Slope Efficiency     | SE                             | 0.95 | 1.15 | 1.30 | mW/mA | Po=450mW  |
| Operating Voltage    | Vop                            | 1.9  | 2.2  | 2.5  | V     | Po=450mW  |
| Lasing Wavelength    | $\lambda_p$                    | 835  | 845  | 855  | nm    | Po=450mW  |
| Beam Divergence      | $\theta_{  }$                  | 5    | 9    | 13   | deg   | Po=450mW  |
|                      | $\theta_{\perp}$               | 30   | 40   | 45   | deg   | Po=450mW  |
| Beam Angle           | $\Delta\theta_{  }$            | -    | -    | ±2   | deg   | Po=450mW  |
|                      | $\Delta\theta_{\perp}$         | -    | -    | ±3   | deg   | Po=450mW  |
| Optical Distance     | $\Delta X, \Delta Y, \Delta Z$ | -    | -    | ±60  | μm    |           |

The above product specifications are subject to change without notice.

# ◆ PACKAGE DIMENSION



◆ PACKING

