

QDLASER

QLD103E-xx50

1030 / 1064 nm >50mW DFB Laser TO-CAN

C00144-02 July 2016



1. DESCRIPTION

The QLD103E-xx50 is a 1030 / 1064-nm distributed feedback (DFB) laser suitable for various applications, such as seeder, measurement, sensing, frequency doubling and etc. The laser is mounted into a TO-56 header including a monitor PD for optical power control and hermetic sealed with a flat type cap.

2. FEATURES

- Single longitudinal mode operation at 1030 nm and 1064 nm
- CW and short pulsed operation
- Φ 5.6mm TO-CAN package
- Monitor PD included

3. APPLICATIONS

- Seeder
- Measurement
- Sensing
- Frequency doubling
- Short pulse generation

4. ABSOLUTE MAXIMUM RATINGS

($T_c = 25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATING | UNIT |
|-----------------------------------|-----------|-----------|------------------|
| Optical Output power | P_O | 60 | mW |
| LD Forward Current | I_F | 180 | mA |
| LD Reverse Voltage | V_{RLD} | 2 | V |
| PD Forward Current | I_{FPD} | 2 | mA |
| PD Reverse Voltage | V_{RPD} | 10 | V |
| Operation Temperature | T_c | 15 to 45 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 to 85 | $^\circ\text{C}$ |
| Lead Soldering Temperature (10 s) | T_{sld} | 260 | $^\circ\text{C}$ |

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Ohmstrasse 4, 85716 Unterschleissheim, Germany

www.imm-photonics.de sales@imm-photonics.de Tel.: +49 89 / 3214120

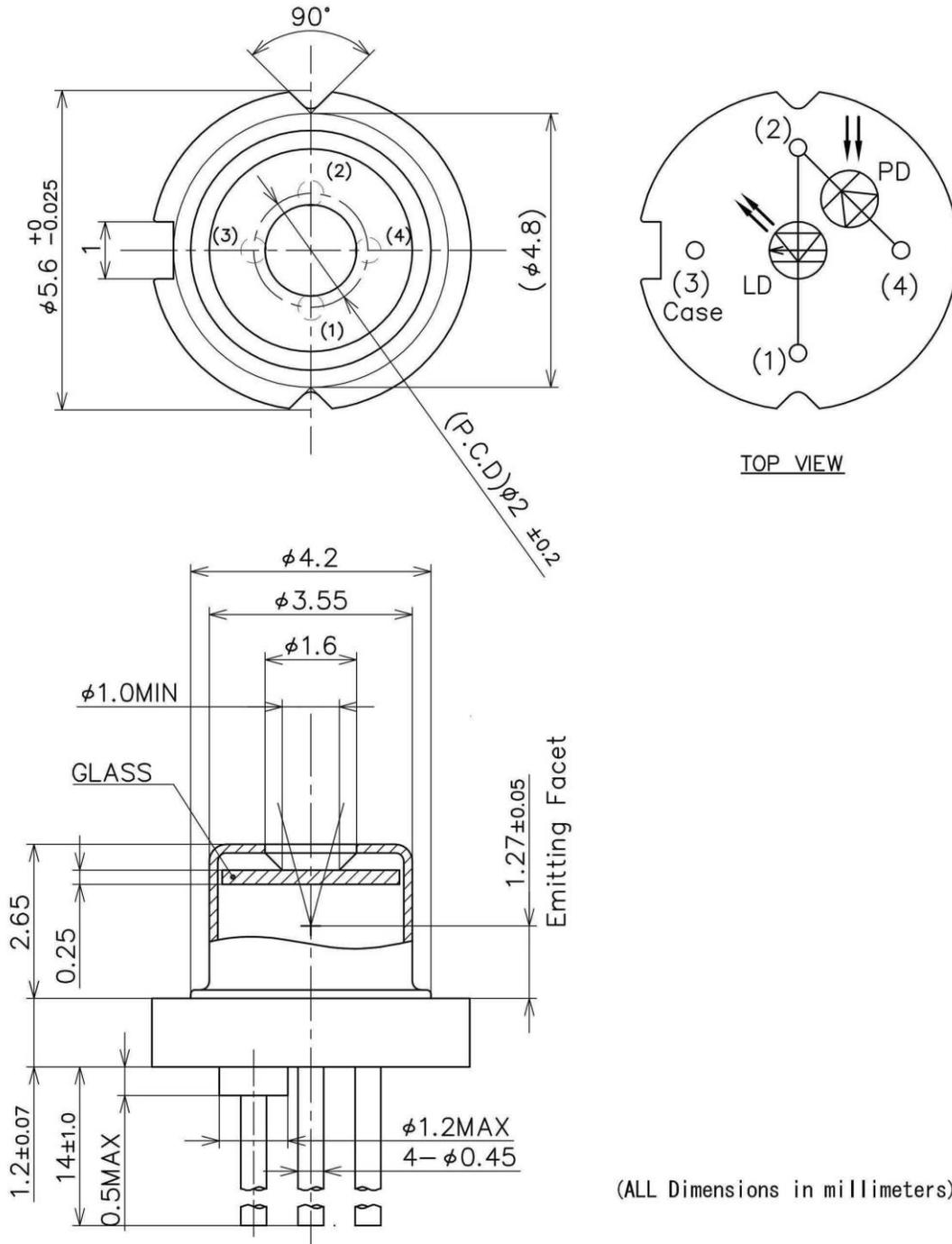
5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_{LD} = 25°C, unless otherwise specified)

| PARAMETER | | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--|--------------|-----------------|---|-------|-------|-------|-------|
| Peak Wavelength | QLD103E-6450 | λ_p | CW, P _O =50 mW | 1059* | 1064 | 1069* | nm |
| | QLD103E-3050 | | | 1025* | 1030 | 1035* | nm |
| Temperature Coefficient of λ_p | | $d\lambda_p/dT$ | CW | - | 0.08 | - | nm/K |
| Current Coefficient of λ_p | | $d\lambda_p/dI$ | CW | - | 0.008 | - | nm/mA |
| Optical Output Power | | P _O | CW | 50 | - | - | mW |
| Threshold Current | | I _{th} | CW | - | 20 | - | mA |
| Operation Current | | I _{op} | CW, P _O =50 mW | - | 100 | 150 | mA |
| Operation Voltage | | V _{op} | CW, P _O =50 mW | - | 1.5 | 2.0 | V |
| Sidemode Suppression Ratio | | SMSR | CW, P _O =50 mW | - | 40 | - | dB |
| Far filed pattern horizontal | | θ_h | CW, P _O =50 mW | - | 10 | - | deg. |
| Far filed pattern vertical | | θ_v | CW, P _O =50 mW | - | 22 | - | deg. |
| Monitor PD Current | | I _m | CW, P _O =50 mW, V _{RPD} =5 V | - | 250 | - | μA |
| Dark current (PD) | | I _d | V _{RPD} =5 V | - | - | 20 | nA |

*Peak wavelength tolerance of +/- 1nm is available as an option.

6. OUTLINE DRAWING



7. NOTICE

- Safety Information

This product is classified as Class 3B laser product, and complies with 21 CFR Part 1040.10.

Please do not take a look laser lighting in operations since laser devices may cause troubles to human eyes.

Please do not eat, burn, break and make chemical process of the products since they contain GaAs material.

- Handling products

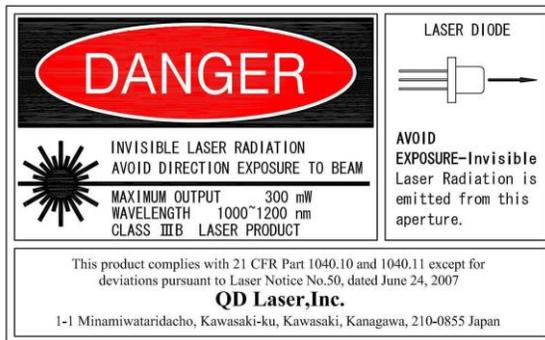
Semiconductor lasers are easily damaged by external stress such as excess temperature and ESD.

Please pay attention to handling products, and use within range of maximum ratings.

QD Laser takes no responsibility for any failure or unusual operation resulting from improper handling, or unusual physical or electrical stress.

- RoHS

This product conforms to RoHS compliance related EU Directive 2011/65/EU.



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QD Laser, Inc.

Contact : info@qdlaser.com <http://www.qdlaser.com>

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Address : Keihin Bldg. 1F 1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa Zip 210-0855 Japan

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