

QDLASER

QLF093A-40B8/QLF093D-40B8

940 nm 285 mW FP LASER TO-CAN

Preliminary

C00178-02 January 2016



1. DESCRIPTION

The QLF093x-40B8 series is a 940 nm quantum well laser device designed for high output power application. The laser diode is mounted into a TO-56 header including a monitor PD and hermetic sealed with a flat glass cap.

2. FEATURES

- 940 nm FP-LD
- $\Phi 5.6$ mm TO-CAN package
- High output power of 285 mW and high slope efficiency
- Lateral multi-mode
- Including monitor PD
- Two types of pin assignments: anode common type (QLF093A-40B8) / cathode common type (QLF093D-40B8)

3. APPLICATIONS

- Industrial applications
- Sensing

4. ABSOLUTE MAXIMUM RATING

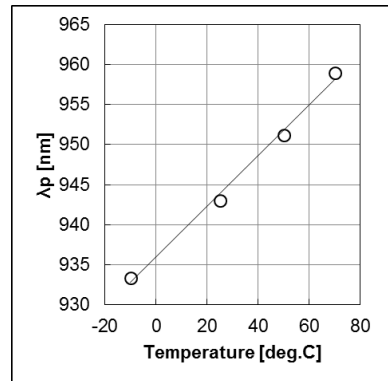
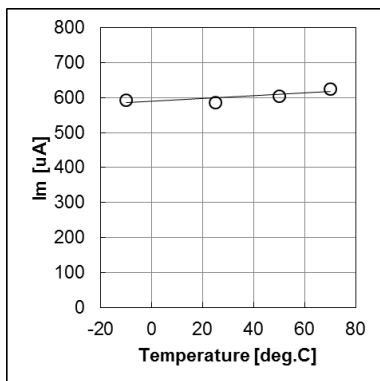
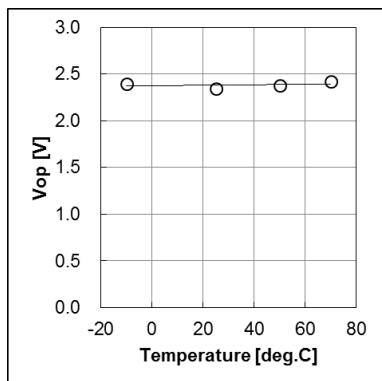
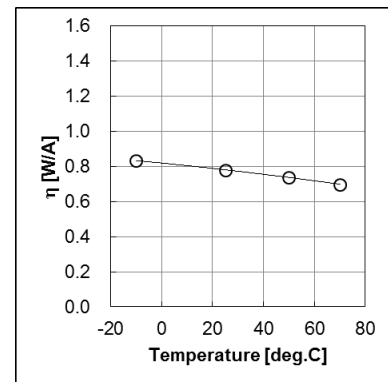
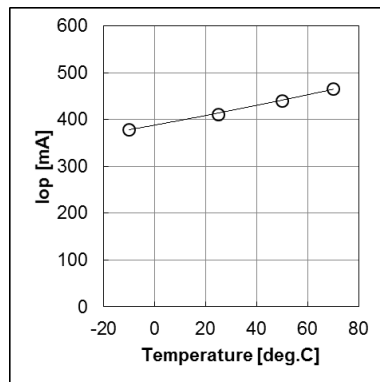
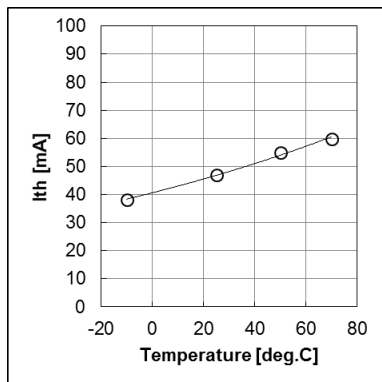
(CW operation, $T_c = 25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATING | UNIT |
|---------------------------|-----------|-----------|------------------|
| Optical output power (CW) | P_o | 295 | mW |
| LD reverse voltage | V_{RLD} | 2 | V |
| PD reverse voltage | V_{RPD} | 30 | V |
| Operation temperature | T_c | -10 to 70 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -40 to 85 | $^\circ\text{C}$ |

5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

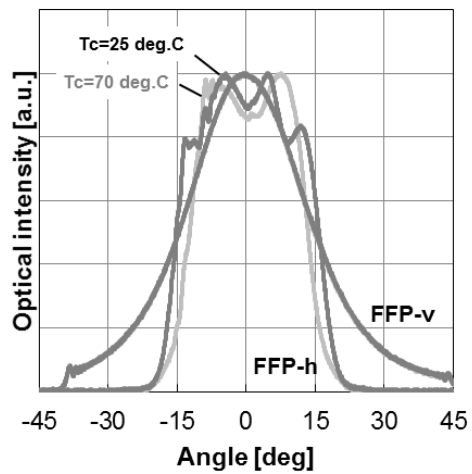
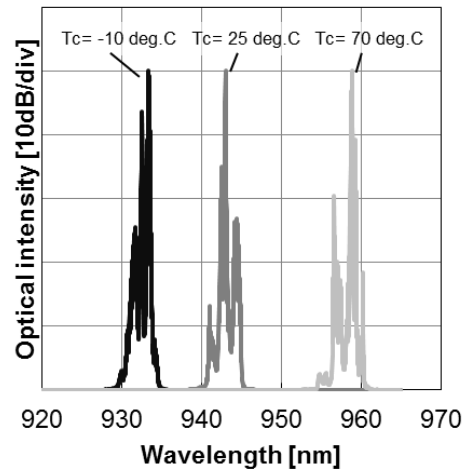
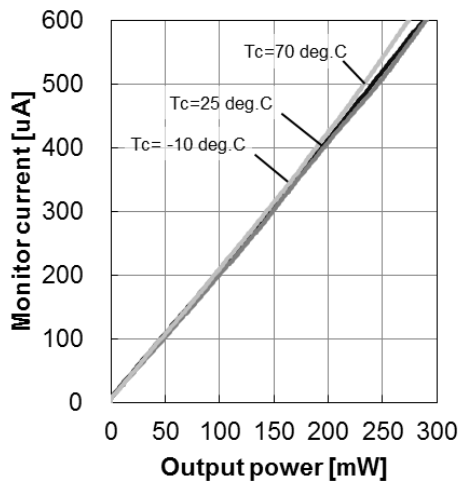
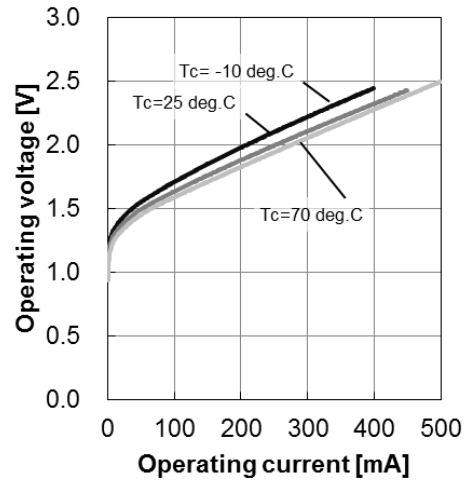
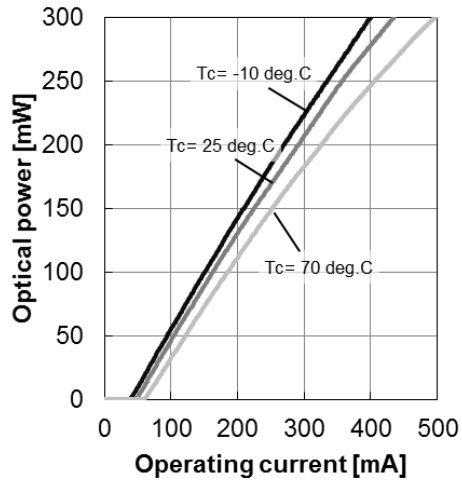
| PARAMETER | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|------------------------------|------------------|--|------|-----|-----|---------------|
| Threshold current | I_{th} | CW | - | 50 | 80 | mA |
| Operation current | I_{op} | CW, $P_o=285\text{ mW}$ | - | 390 | 430 | mA |
| Operation voltage | V_{op} | CW, $P_o=285\text{ mW}$ | - | 2.2 | 2.7 | V |
| Slope efficiency | η | CW, $P_o=5 - 285\text{ mW}$ | 0.65 | 0.8 | - | W/A |
| Monitor current | I_m | CW, $P_o=285\text{ mW}$, $V_{RD}=5\text{ V}$ | - | 600 | - | μA |
| Peak wavelength | λ_p | CW, $P_o=285\text{ mW}$ | 920 | 940 | 960 | nm |
| Far filed pattern horizontal | θ_h | CW, $P_o=285\text{ mW}$ | 26 | 30 | 34 | deg. |
| Far filed pattern Vertical | θ_v | CW, $P_o=285\text{ mW}$ | 25 | 31 | 37 | deg. |
| Beam angle Horizontal | $\Delta\theta_h$ | CW, $P_o=210\text{ mW}$ | -3 | - | 3 | deg. |
| Beam angle Vertical | $\Delta\theta_v$ | CW, $P_o=210\text{ mW}$ | -3 | - | 3 | deg. |



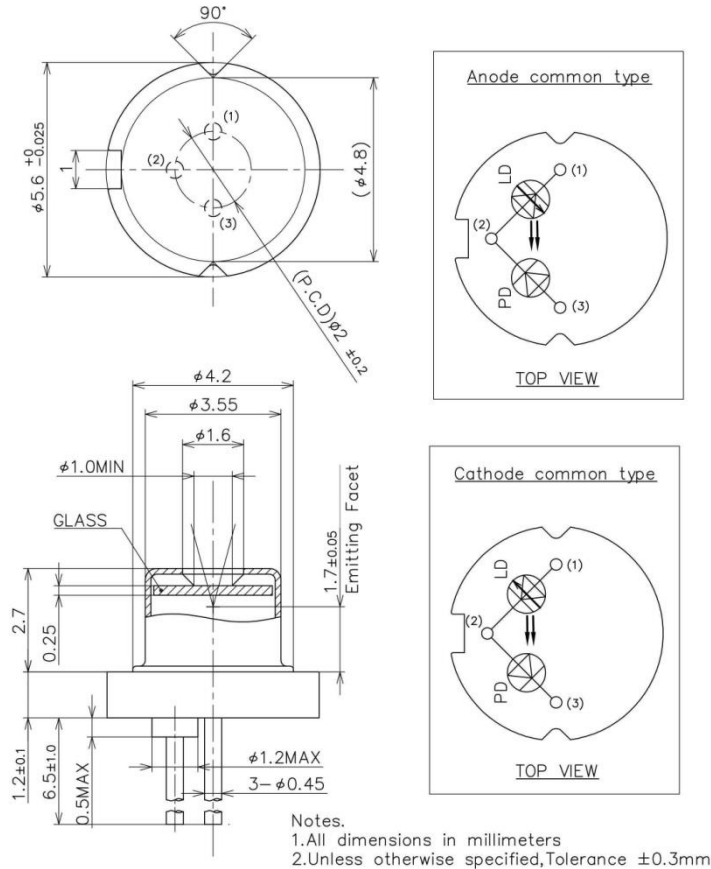
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6. Outline Drawing



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 at 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.

QD Laser, Inc.

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