

QDLASER

QLF1339-AA

1310 nm FP LASER TO-CAN

Preliminary

C00042-02 Nov. 2010



1. DESCRIPTION

The QLF1339-AA is 1310 nm quantum dot laser diode device for use in telecom and datacom applications up to 2.5Gbps speed. The laser is mounted into a TO-56 header without PD monitor and hermetic sealed with a lens cap. Since quantum dot technologies are equipped with active layers of the device, it realizes excellent temperature characteristics and low power consumptions.

2. FEATURES

- 1310 nm FP-LD
- $\Phi 5.6\text{mm}$ TO-CAN package
- Wide temperature operation: -10 to 85 deg.C
- PD less type

3. APPLICATION

- Optical communication

4. ABSOLUTE MAXIMUM RATING

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

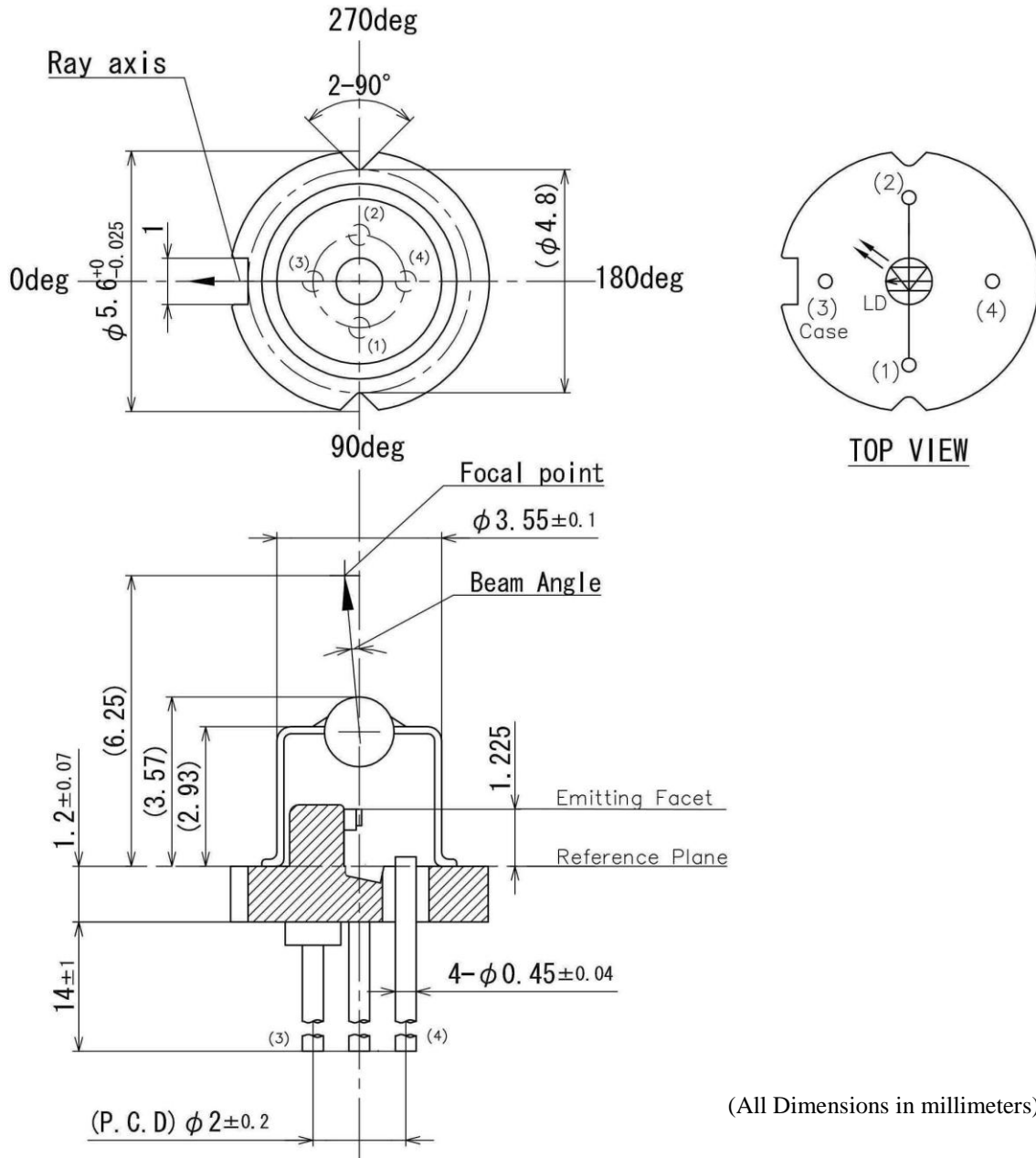
| PARAMETER | SYMBOL | RATING | UNIT |
|----------------------------------|-----------|------------|------------------|
| Light Output Power | P_o | 6 | mW |
| LD Forward Current | I_F | 80 | mA |
| LD Reverse Voltage | V_{RLD} | 2 | V |
| Operation Temperature (T_c) | T_c | -10 to 85 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 to 100 | $^\circ\text{C}$ |
| Lead Soldering Temperature (5 s) | T_{sld} | 230 | $^\circ\text{C}$ |

5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_c = 25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITION | T _c | MIN | TYP | MAX | UNIT |
|--------------------------------|---------------------------------|-----------------------------------------------------------------|----------------|------|------|------|------|
| Threshold current | I _{th} | CW | -10°C | - | 8 | 15 | mA |
| | | | 25°C | | | | |
| | | | 85°C | | | | |
| Operation current | I _{op} | CW, P _o =5 mW | -10°C | - | 28 | 40 | mA |
| | | | 25°C | | | | |
| | | | 85°C | | | | |
| Operation voltage | V _{op} | CW, P _o =5 mW | -10°C | - | 1.4 | 1.6 | V |
| | | | 25°C | | | | |
| | | | 85°C | | | | |
| Slope efficiency | η | CW | -10°C | 0.23 | 0.28 | - | W/A |
| | | | 25°C | | | | |
| | | | 85°C | | | | |
| Saturation power | P _{sat} | CW | 85°C | 6 | - | - | mW |
| Center wavelength | λ _c | CW, P _o =5 mW | -10°C | 1275 | 1289 | 1345 | nm |
| | | | 25°C | | 1305 | | |
| | | | 85°C | | 1335 | | |
| Spectral width | Δλ | CW, P _o =5 mW RMS(-20dB) | -10°C | - | 2.9 | 4.0 | nm |
| | | | 25°C | | 2.6 | | |
| | | | 85°C | | 2.1 | | |
| Rise and fall time | T _r , T _f | I _b = I _{th} , P _o =5 mW, 10-90% | 25°C | - | 0.05 | - | nsec |
| Optical power coupled to fiber | P _f | CW, P _o =5 mW, SI10/125 | 25°C | - | 0.85 | - | mW |
| Focal length | D _f | CW, P _o =5 mW, SI10/125 | 25°C | - | 6.25 | - | mm |
| Ray Axis | θ _{xy} | CW, P _o =5 mW | 25°C | - | 0 | - | deg. |
| Beam angle | θ _z | CW, P _o =5 mW | 25°C | - | 1.1 | - | deg. |

6. Outline Drawing



7. Notice

- Safety Information

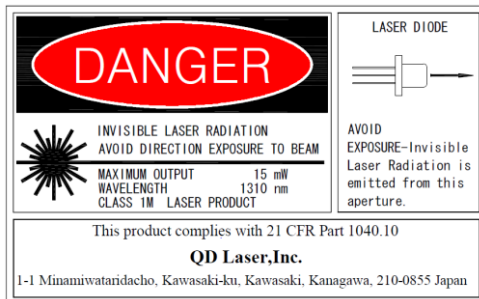
This product is classified as Class 1M laser product, and complies with 21 CFR Part 1040.10. Please do not take a look laser lighting in operations since laser devices may cause troubles to human eyes. Please do not eat, burn, break and make chemical process of the products since they contain GaAs material.

- 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. QDL 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 2002/95/EC.



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