

QDLASER

QLD1061-5330

1053 nm DFB Laser Butterfly Package

Preliminary

C00044-03 August 2013



1. DESCRIPTION

The QLD1061-5330 is a 1053-nm distributed feedback (DFB) laser for use in seeder for fiber lasers and sensing applications. The laser is assembled into a 14-pin butterfly package with an optical isolator, a monitor PD and a thermo-electric cooler.

2. FEATURES

- Single longitudinal mode operation at 1053 nm
- Fiber-pigtailed 14-pin butterfly package with a TEC
- Optical isolator integration
- Polarization maintaining fiber integration
- CW/Pulse operation

3. APPLICATION

- Seed laser for fiber lasers
- Sensing

4. ABSOLUTE MAXIMUM RATING

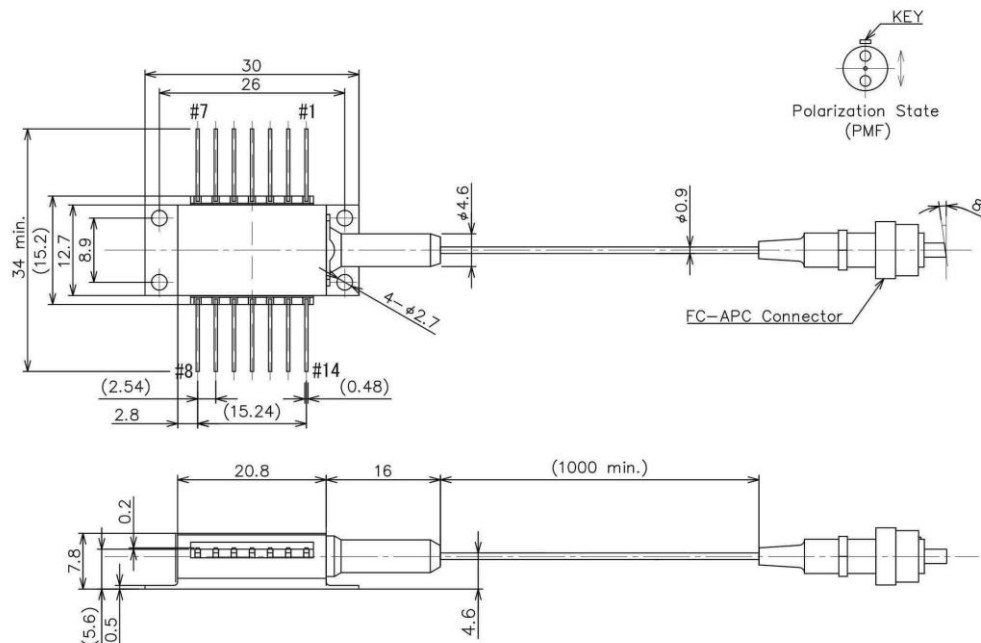
| PARAMETER | SYMBOL | RATING | UNIT |
|----------------------------------|-----------|-----------|------|
| Optical Output power | P_f | 50 | mW |
| LD Forward Current | I_F | 250 | mA |
| LD Reverse Voltage | V_{RLD} | 2 | V |
| TEC Drive Current | I_{TEC} | 2 | A |
| TEC Drive Voltage | V_{TEC} | 4.3 | V |
| Operation Temperature | T_c | 0 to 60 | °C |
| Storage Temperature | T_{stg} | -40 to 85 | °C |
| Lead Soldering Temperature (5 s) | T_{sld} | 230 | °C |

5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

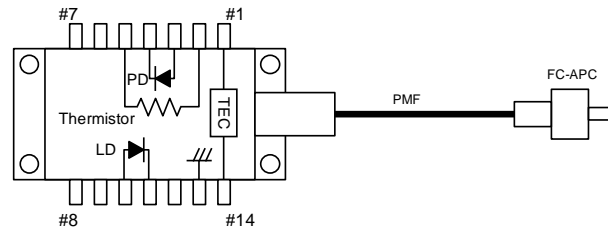
| PARAMETER | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--|-----------------|--|------|-------|------|------------------|
| Peak Wavelength | λ_p | CW, $P_f=30\text{ mW}$ | 1050 | 1052 | 1054 | nm |
| Spectral Width (FWHM) | $\Delta\nu$ | CW, $P_f=30\text{ mW}$ | - | 4 | 20 | MHz |
| Temperature 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 |
| Fiber Output Power | P_f | CW | 30 | - | - | mW |
| Threshold Current | I_{th} | CW | - | 20 | - | mA |
| Operation Current | I_{op} | CW, $P_f=30\text{ mW}$ | - | 150 | 200 | mA |
| Operation Voltage | V_{op} | CW, $P_f=30\text{ mW}$ | - | 1.7 | 2.0 | V |
| Sidemode Suppression Ratio | SMSR | CW, $P_f=30\text{ mW}$ | - | 40 | - | dB |
| Polarization Extinction Ratio | PER | CW, $P_f=30\text{ mW}$ | 15 | 20 | - | dB |
| Monitor PD Current | I_m | CW, $P_f=30\text{ mW}$ | 50 | 100 | 500 | μA |
| Thermistor Resistance | R_{th} | $T_{LD} = 25^{\circ}\text{C}$, $B=3900\text{K}$ | 9.5 | 10 | 10.5 | $\text{k}\Omega$ |

6. OUTLINE DRAWING



7. PIN CONFIGURATION

| No. | Description | No. | Description |
|-----|-------------|-----|---------------|
| 1 | TEC (+) | 8 | NC |
| 2 | Thermistor | 9 | NC |
| 3 | PD Anode | 10 | Laser Anode |
| 4 | PD Cathode | 11 | Laser Cathode |
| 5 | Thermistor | 12 | NC |
| 6 | NC | 13 | Case Ground |
| 7 | NC | 14 | TEC (-) |



8. 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 2002/95/EC.

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|--|---|
| | |
| <p>INVISIBLE LASER RADIATION AVOID DIRECTION EXPOSURE TO BEAM</p> <p>MAXIMUM OUTPUT 300 mW WAVELENGTH 1000~1200 nm CLASS 3B LASER PRODUCT</p> | <p>AVOID EXPOSURE-Invisible Laser Radiation is emitted from this aperture.</p> |
| <p>This product complies with 21 CFR Part 1040.10</p> <p>QD Laser, Inc.</p> <p>1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0855 Japan</p> | |

QD Laser, Inc.

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