

# QDLASER

## QLD1061

1064 nm DFB Laser Butterfly Package

C00033-10 August 2015



### 1. DESCRIPTION

The QLD1061 is a 1064-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 1064 nm
- Fiber-pigtailed 14-pin butterfly package with a TEC
- Optical isolator integration
- Polarization maintaining fiber integration
- CW/Pulse operation

### 3. APPLICATIONS

- Seeder for fiber lasers
- Sensing

### 4. ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Optical Output power (CW)	$P_f$	50	mW
LD Forward Current (CW)	$I_f$	250	mA
Peak Output power (Pulse 10 ns / 1 MHz)	$P_{f\_pulse}$	150	mW
LD Peak Current (Pulse 10 ns / 1 MHz)	$I_{f\_pulse}$	600	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

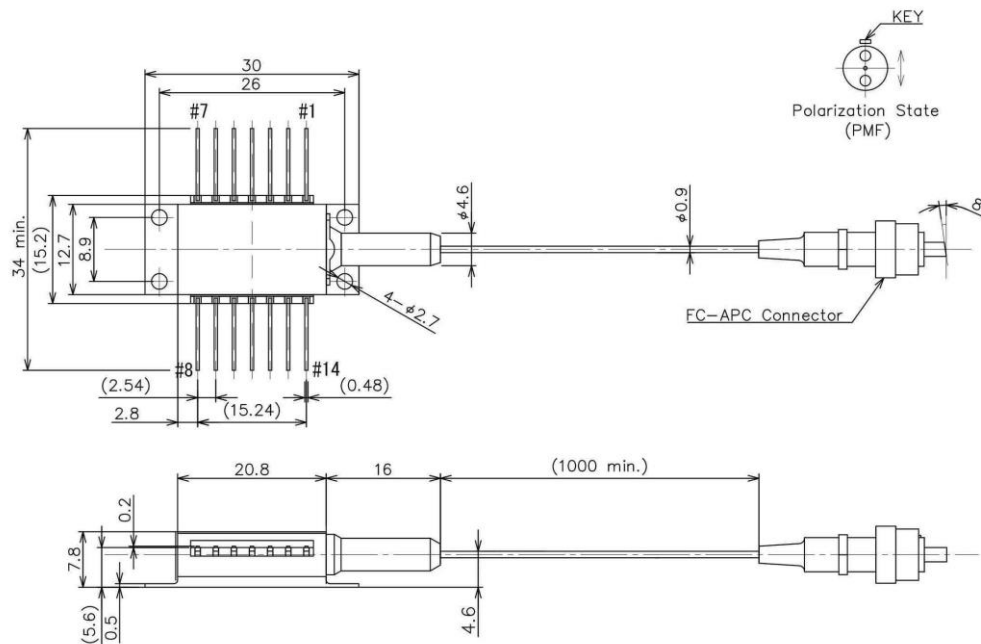
( $T_{LD} = 25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	$\lambda_p$	CW, $P_f=30$ mW	1059*	1064	1069*	nm
Temperature Coefficient of $\lambda_p$	$d\lambda_p/dT$	CW	-	0.08	-	nm/K
Current Coefficient of $\lambda_p$	$d\lambda_p/dI$	CW	-	0.008	-	nm/mA
Threshold Current	$I_{th}$	CW	-	15	20	mA
CW Fiber Output Power	$P_f$	CW	30	-	-	mW
Pulsed Peak Output Power	$P_{f\_peak}$	5 ns / 100 kHz	-	100	-	mW
Operation Current	$I_{op}$	CW, $P_f=30$ mW	-	110	160	mA
Operation Voltage	$V_{op}$	CW, $P_f=30$ mW	-	1.5	1.8	V
Pulsed Peak Operation Current	$I_{op\_peak}$	$P_{f\_peak}=100$ mW	-	320	-	mA
Pulse Width	$t_{pw}$	Pulsed	0.05**	-	100	ns
Duty Cycle	D.C.	Pulsed	-	-	2	%
Sidemode Suppression Ratio	SMSR	CW, $P_f=30$ mW	30	50	-	dB
		Pulsed 4 ns / 1 MHz / $P_{f\_peak}=50$ mW	30	40	-	dB
Polarization Extinction Ratio	PER	CW, $P_f=30$ mW	15	20	-	dB
Monitor PD Current	$I_m$	CW, $P_f=30$ mW	50	200	800	$\mu\text{A}$
Thermistor Resistance	$R_{th}$	$T_{LD} = 25^{\circ}\text{C}$ , $B=3900$ K	9.5	10	10.5	$\text{k}\Omega$

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

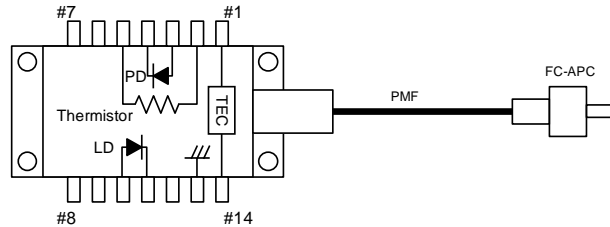
\*\*Pulse width of 50 ps (0.05 ns) could be achieved under gain switch operation.

## 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 2011/65/EU.

	<b>LASER DIODE</b> 						
	<b>AVOID EXPOSURE—Invisible Laser Radiation is emitted from this aperture.</b>						
<b>INVISIBLE LASER RADIATION AVOID DIRECTION EXPOSURE TO BEAM</b>							
<table border="0"> <tr> <td>MAXIMUM OUTPUT</td> <td>300 mW</td> </tr> <tr> <td>WAVELENGTH</td> <td>1064 nm</td> </tr> <tr> <td colspan="2">CLASS 3B LASER PRODUCT</td> </tr> </table>		MAXIMUM OUTPUT	300 mW	WAVELENGTH	1064 nm	CLASS 3B LASER PRODUCT	
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<p>This product complies with 21 CFR Part 1040.10</p> <p><b>QD Laser, Inc.</b></p> <p>1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0855 Japan</p>							

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