

QDLASER

QLD1161-2030/8030 series

1120/1180 nm DFB Laser Butterfly Package

Preliminary

C00108-01 May 2013



1. DESCRIPTION

The QLD1161-2030/8030 series are 1120/1180-nm distributed feedback (DFB) lasers for use in scientific and industrial 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 1120 or 1180nm
- Fiber-pigtailed 14-pin butterfly package with a TEC
- Optical isolator integration
- Polarization maintaining fiber integration
- Two types of pigtailed fiber diameter are available: 900um or 250um

3. APPLICATION

- Seed source for SHG
- 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)

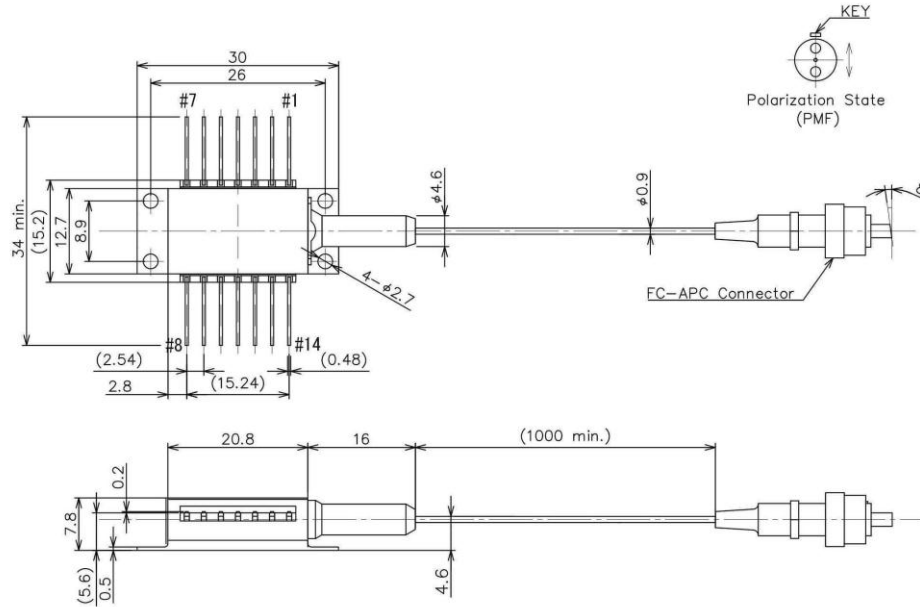
PARAMETER		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	QLD1161-2030	λ_p	CW, $P_f=30$ mW	1115*	1120	1125*	nm
	QLD1161-8030			1175*	1180	1185*	
Spectral Width (FWHM)		$\Delta\nu$	CW, $P_f=30$ mW	-	TBD		MHz
Temperature Coefficient of λ_p		$d\lambda_p/dT$	CW	-	0.08	-	nm/K
Current Coefficient of λ_p		$d\lambda_p/dI$	CW	-	0.01	-	nm/mA
Fiber Output Power		P_f	CW	30	-	-	mW
Threshold Current		I_{th}	CW	-	30	-	mA
Operation Current		I_{op}	CW, $P_f=30$ mW	-	150	200	mA
Operation Voltage		V_{op}	CW, $P_f=30$ mW	-	1.7	2.0	V
Sidemode Suppression Ratio		SMSR	CW, $P_f=30$ mW	-	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	100	1000	μA
Thermistor Resistance		R_{th}	$T_{LD} = 25^{\circ}\text{C}$, B=3900K	9.5	10	10.5	k Ω

*Peak wavelength tolerance of +/- 2nm is available as an option.

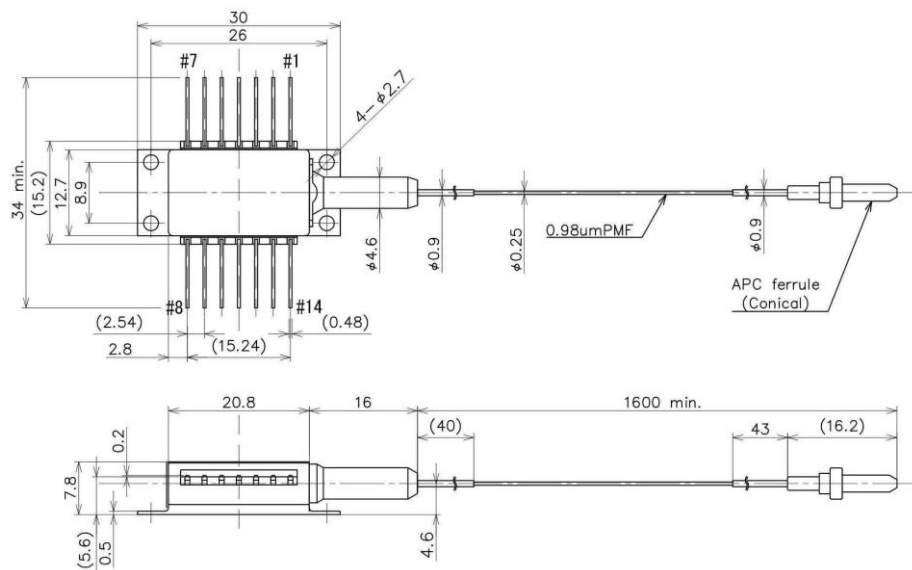
6. PRODUCT PART NUMBER

Part Number	Peak Wavelength	Output Power	Fiber Diameter	Connector
QDL1161-2030	1120nm	30mW	900um	FC/APC
QLD1161-2030-11			250um	Ferrule
QLD1161-8030	1180nm		900um	FC/APC
QLD1161-8030-11			250um	Ferrule

7. OUTLINE DRAWING



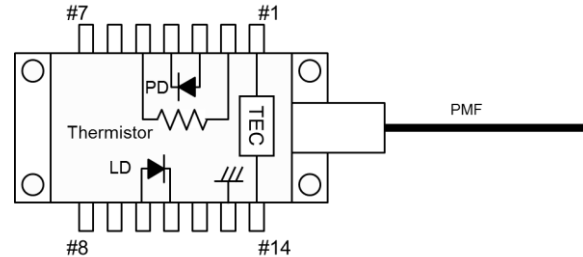
(a) 900um fiber diameter and FC/APC connector type



(b) 250um fiber diameter and ferrule type

8. 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 (-)



9. 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.

	<p>LASER DIODE</p>
<p>INVISIBLE LASER RADIATION AVOID DIRECTION EXPOSURE TO BEAM</p>	<p>AVOID EXPOSURE—Invisible Laser Radiation is emitted from this aperture.</p>
<p>MAXIMUM OUTPUT 300 mW WAVELENGTH 1000~1200 nm CLASS 3B LASER PRODUCT</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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