

 QD LASER

QLD1a61-xx30GzWtt series

1 μm -range 50 ps DFB Laser BFY Module under gain switched Operation C00282-03 February 2026



1. DESCRIPTION

The QLD1a61-xx30GzWtt series is a 1 μm -wavelength range distributed feedback (DFB) laser for use in seeder 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
- Fiber-pigtailed 14-pin butterfly package with a monitor PD and a TEC
- Optical isolator integration
- Polarization maintaining fiber integration
- 50 ps gain switched optical pulse

3. APPLICATIONS

- Seeder for fiber lasers
- Sensing

4. ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Optical Output power (Gain switch operation)	P_p	150	mW
Optical Output power (CW)	P_f	50	mW
LD Forward Current (CW)	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	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 to 85	$^{\circ}\text{C}$
Lead Soldering Temperature (5 s)	T_{sld}	230	$^{\circ}\text{C}$

5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Optical pulse width	PW	gain switched operation		50	-	ps
Peak output power	P_p	gain switched operation	-	100	-	mW
Peak Wavelength	λ_p	gain switched operation	$\lambda_p - 5$ (*2)	λ_p (*1)	$\lambda_p + 5$ (*2)	nm
Pulsed side-mode suppression ratio	SMSR_p	gain switched operation	-	30	-	dB
Pulsed spectral line width	$\Delta\lambda$	gain switched operation	-	0.1	-	nm
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
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	200	1000	μA
Thermistor Resistance	R_{th}	$T_{LD} = 25^{\circ}\text{C}$, $B = 3900\text{K}$	9.5	10	10.5	$\text{k}\Omega$

(*1) Available peak wavelength is from 1018 to 1122 nm and 1040 to 1188 nm.

(*2) Tighter wavelength tolerance of $\pm 1\text{nm}$ and $\pm 0.5\text{nm}$ is available as an option. Refer to product part number according to wavelength tolerance

6. PRODUCT PART NUMBER

6-1 General naming rule

QLD1a61-xx30GzWtt

Symbol	Item	Condition	Parameter
a	Main wavelength range	1axx defines wavelength range in nm	a=0: 10xx nm range a=1: 11xx nm range
xx	Main wavelength range	xx defines the last two digits of the wavelength range in nm	xx=30: 1030 to 1039 nm xx=50: 1050 to 1059 nm xx=80: 1080 to 1089 nm (exception: xx=64 for 1060 to 1069 nm)
tt	Wavelength	Detailed specification of wavelength	tt=63: 1063 nm tt=32: 1032 nm (examples)
zW	Wavelength tolerance	Wavelength tolerance	none: +/-5 nm W: +/-1 nm TW: +/-0.5 nm

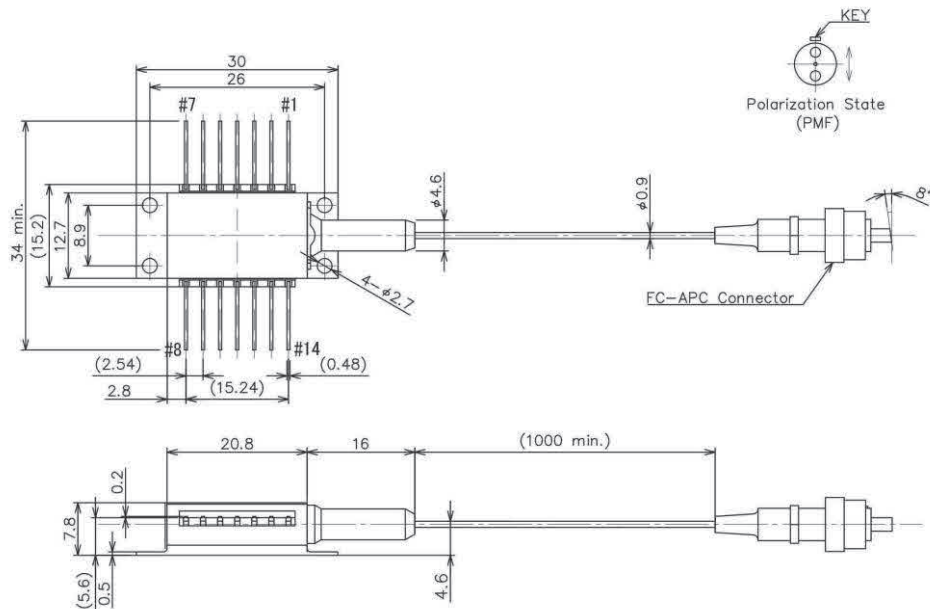
6-2 Connector type

Part Number	Fiber Type	Fiber Diameter	Connector
QLD1a61-xx30GzWtt	Polarization maintaining fiber	900 μ m	FC/APC
QLD1a61-xx30GzWtt11		250 μ m	Ferrule/APC

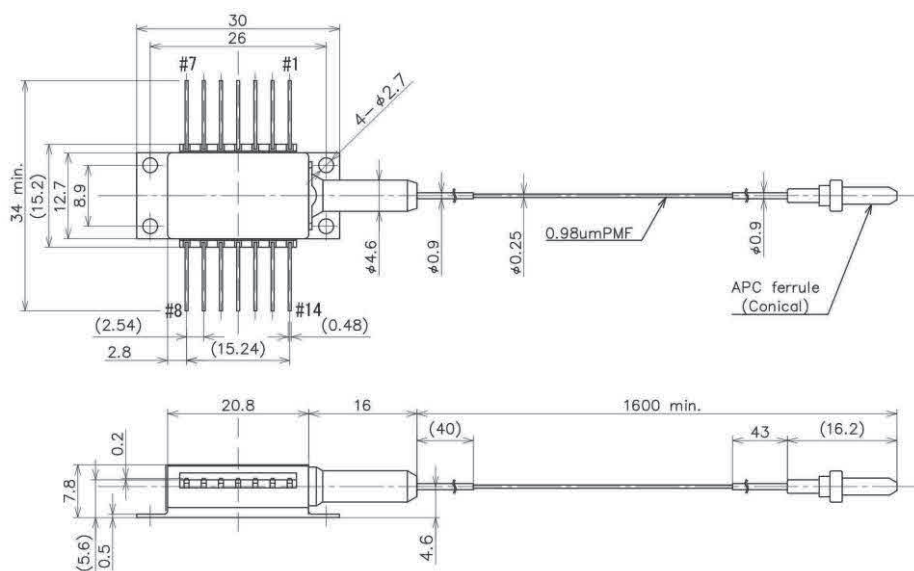
6-3 Examples of product part number

Part Number	Peak Wavelength, Fiber Type
QLD1061-6430GW60	1060 nm +/-1nm, 900 μ m fiber
QLD1061-3030GTW3211	1032 nm +/-0.5 nm, 250 μ m fiber
QLD1161-2030GW2211	1122 nm +/-1 nm, 250 μ m fiber
QLD1061-8030G83	1083 nm +/-5 nm, 900 μ m fiber

7. OUTLINE DRAWING



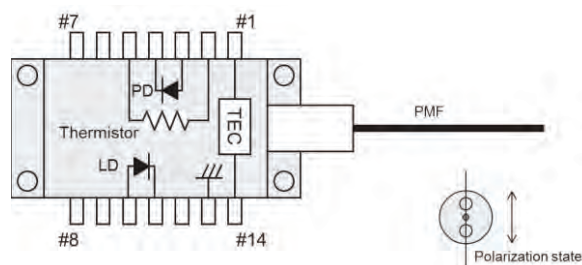
(a) 900 μm fiber diameter and FC/APC connector type (QLD1a61-xx30GzWtt)



(b) 250 μm fiber diameter and ferrule type (QLD1a61-xx30GzWtt11)

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 Directive (EU) 2015/863.

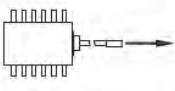


DANGER

INVISIBLE LASER RADIATION
AVOID DIRECTION EXPOSURE TO BEAM

MAXIMUM OUTPUT 300 mW
WAVELENGTH 1000~1200 nm
CLASS 3B LASER PRODUCT

LASER DIODE



AVOID EXPOSURE-Invisible Laser Radiation is emitted from this aperture.

This product complies with 21 CFR Part 1040.10

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