

# QD LASER

## QLD106L-6430G series

1064 nm DFB Laser Butterfly Package

C00240-01 October 2020



### 1. DESCRIPTION

QLD106L-6430G 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 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 monitor PD and a TEC
- Without an optical isolator and with one polarizer
- 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	°C
Storage Temperature	$T_{stg}$	-40 to 85	°C
Lead Soldering Temperature (5 s)	$T_{sld}$	230	°C

# QD LASER

QLD106L-6430G series

C00240-01

## 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	30	50	-	mW
Peak Wavelength	$\lambda_p$	gain switched operation	1059*	1064	1069*	nm
Pulsed side-mode suppression ratio	SMSR <sub>P</sub>	gain switched operation	-	30	-	dB
Pulsed spectral line width	$\Delta\lambda$	gain switched operation	-	0.1	-	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
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	k $\Omega$

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

## 6. PRODUCT PART NUMBER

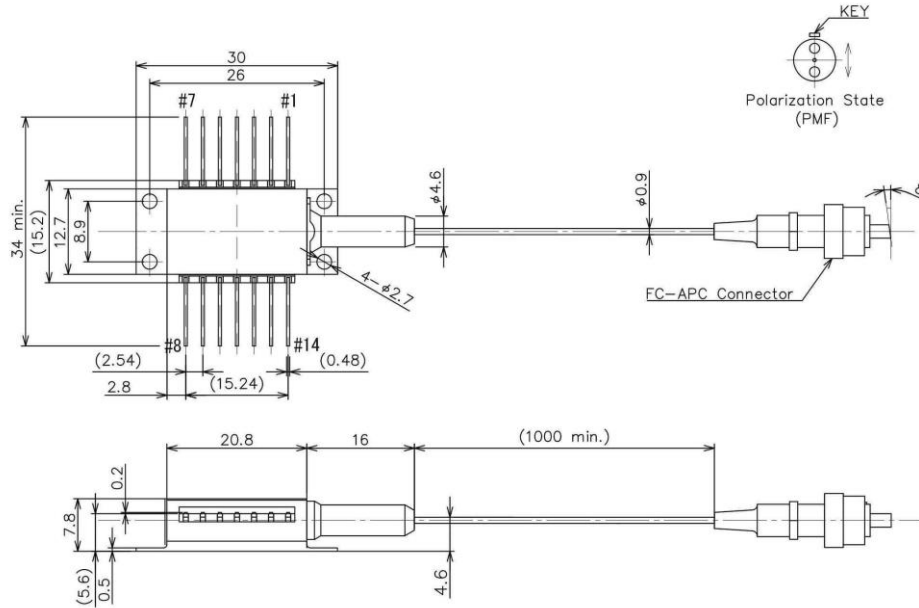
Part Number	Fiber Type	Fiber Diameter	Connector
QLD106L-6430G	Polarization maintaining fiber	900um	FC/APC
QLD106L-6430G-11		250um	Ferrule

# QD LASER

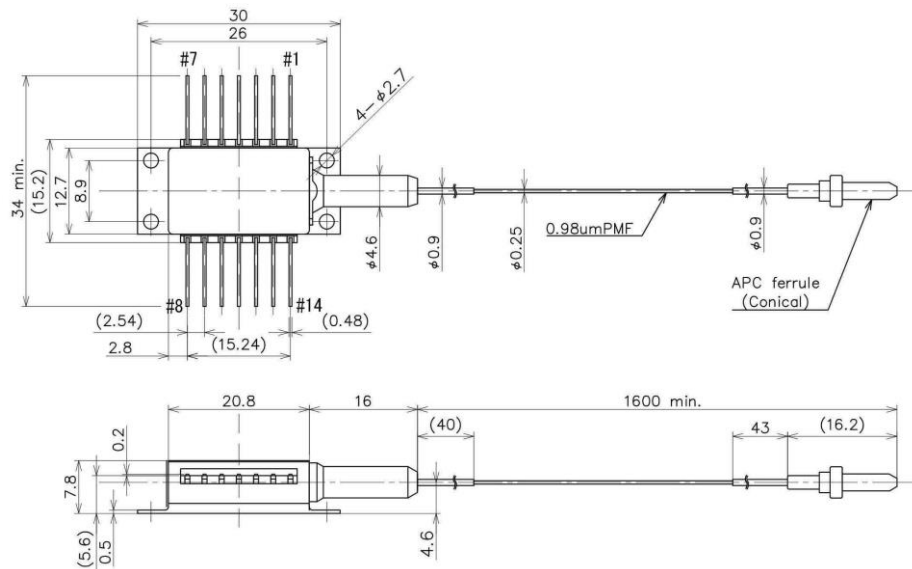
QLD106L-6430G series

C00240-01

## 7. OUTLINE DRAWING



(a) 900um fiber diameter and FC/APC connector type (QLD106L-6430G)



(b) 250um fiber diameter and ferrule type (QLD106L-6430G-11)

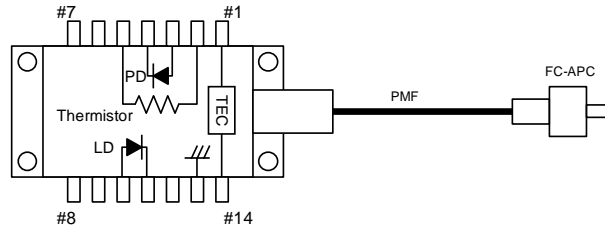
# QD LASER

QLD106L-6430G series

C00240-01

## 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.

 <p><b>DANGER</b></p>	<p>LASER DIODE</p> 
 <p>INVISIBLE LASER RADIATION                  AVOID DIRECTION EXPOSURE TO BEAM</p> <hr/> <p>MAXIMUM OUTPUT 1 W                  WAVELENGTH 1000~1200 nm                  CLASS IV LASER PRODUCT</p>	<p><b>AVOID EXPOSURE-Invisible</b>                  Laser Radiation is emitted from this aperture.</p>
<p>This product complies with 21 CFR Part 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No.50, dated June 24, 2007</p> <p><b>QD Laser, Inc.</b>                  1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0855 Japan</p>	

**QD Laser, Inc.**

Contact : [info@qdlaser.com](mailto:info@qdlaser.com) <https://www.qdlaser.com>

Copyright 2020 All Rights Reserved by QD Laser, Inc.

Keihin Bldg. 1F 1-1 Minamiwatarida-cho, Kawasaki-ku, Kawasaki, Kanagawa Zip 210-0855 Japan

All company or product names mentioned herein are trademarks or registered trademarks of their respective owners. Information provided in this data sheet is accurate at time of publication and is subject to change without advance notice.