QD LASER

QLD103E-xx50-ST

1030 / 1064 nm >50 mW DFB Laser TO-CAN C00253-02 Feb 2026

1. DESCRIPTION

The QLD103E-xx50 is a 1030 / 1064 nm distributed feedback (DFB) laser suitable for various applications, such as seeder, measurement, sensing, frequency doubling etc. The laser is mounted into a TO-56 header including a monitor PD for optical power control and hermetic sealed with a flat type cap.

2. FEATURES

- Single longitudinal mode operation at 1030 nm and 1064 nm
- CW operation
- Φ5.6 mm TO-CAN package
- Monitor PD included

3. APPLICATIONS

- Seeder
- Measurement
- Sensing
- Frequency doubling

4. ABSOLUTE MAXIMUM RATINGS

(T_c = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Optical Output Power	P_O	60	mW
LD Forward Current	I_F	180	mA
LD Reverse Voltage	V_{RLD}	2	V
PD Forward Current	I_{FPD}	2	mA
PD Reverse Voltage	V_{RPD}	10	V
Operation Temperature	T_c	15 to 45	°C
Storage Temperature	T_{stg}	-40 to 85	°C
Lead Soldering Temperature (10 s)	T_{sld}	260	°C

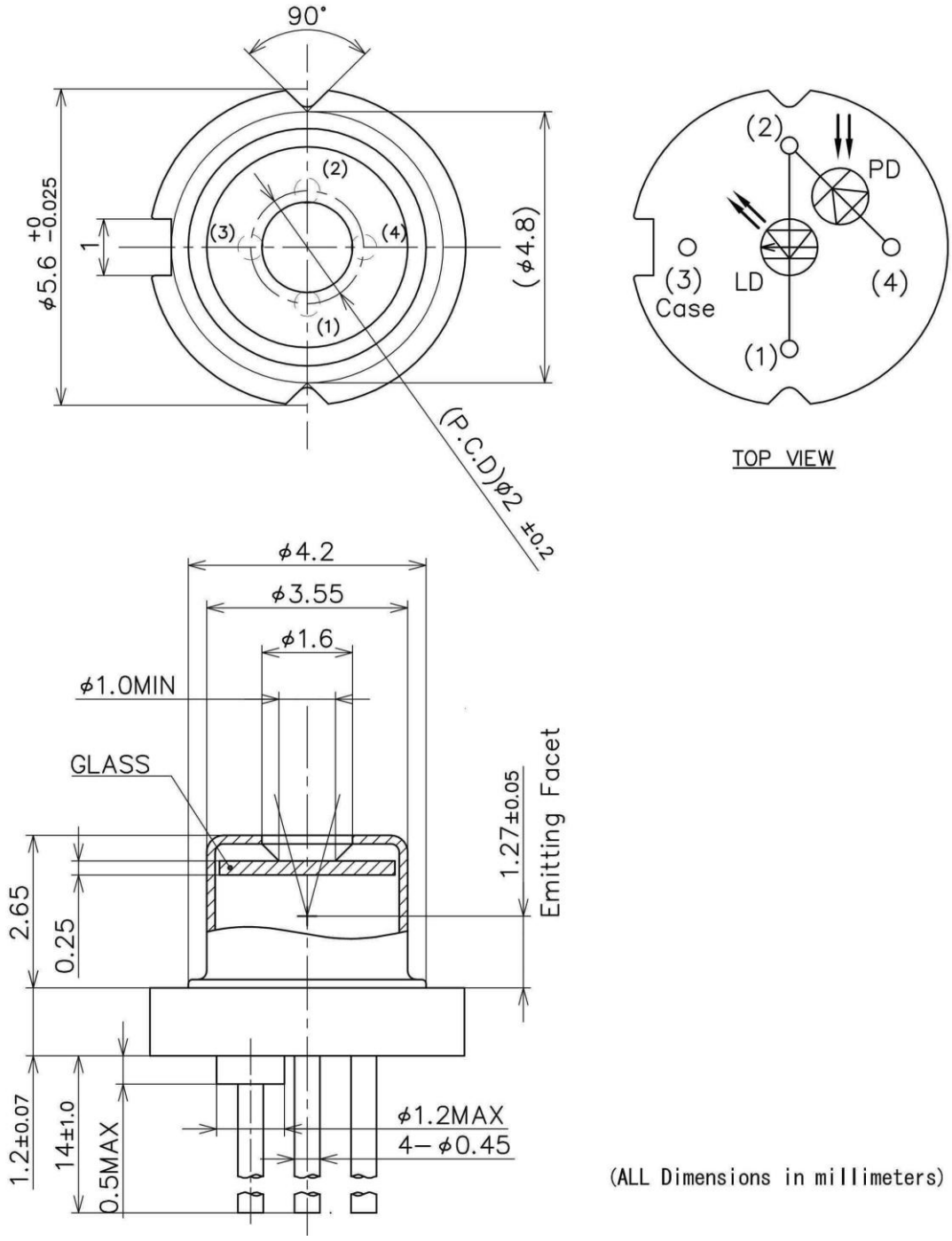
5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_{LD} = 25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	QLD103E-6450	λ_p	CW, P_O=50 mW	1059*	1064	1069*	nm
	QLD103E-3050			1025*	1030	1035*	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
Optical Output Power		P_O	CW	50	-	-	mW
Threshold Current		I_{th}	CW	-	20	-	mA
Operation Current		I_{op}	CW, P_O=50 mW	-	100	150	mA
Operation Voltage		V_{op}	CW, P_O=50 mW	-	1.5	2.0	V
Sidemode Suppression Ratio		SMSR	CW, P_O=50 mW	-	40	-	dB
Far field Pattern Horizontal		θ_h	CW, P_O=50 mW	-	10	-	deg.
Far field Pattern Vertical		θ_v	CW, P_O=50 mW	-	22	-	deg.
Monitor PD Current		Im	CW, P_O=50 mW, V_{RPD}=5 V	-	250	-	μA
Dark Current (PD)		I_d	V_{RPD}=5 V	-	-	20	nA

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

6. OUTLINE DRAWING



7. NOTICE

- Safety Information

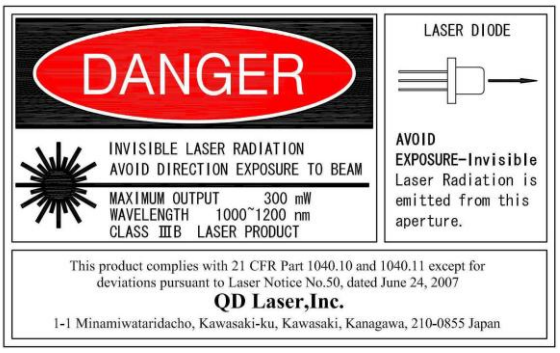
This product is classified as Class 3B laser product, and complies with 21 CFR Part 1040.10.
Please do not take a look laser lighting in operations since laser devices may cause troubles to human eyes.
Please do not eat, burn, break and make chemical process of the products since they contain GaAs material.

- 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.



QD Laser, Inc.
Contact : sales@qdlaser.com https://www.qdlaser.com

Address : Keihin Bldg. 1F 1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa Zip 210-0855 Japan