

# ✱ QD LASER

## QLD103E-xx50-ST

1030 / 1064 nm >50 mW DFB Laser TO-CAN

C00253-04 June 2026



### 1. DESCRIPTION

The QLD103E-xx50 is a 1030 / 1064 nm distributed feedback (DFB) laser suitable for various applications, such as seeder, measurement, sensing, and frequency doubling. 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
- $\Phi 5.6$  mm TO-CAN package
- Monitor PD included

### 3. APPLICATIONS

- Seeder
- Measurement
- Sensing
- Frequency doubling

### 4. ABSOLUTE MAXIMUM RATINGS

( $T_c = 25^\circ\text{C}$ , 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	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to 85	$^\circ\text{C}$
Lead Soldering Temperature (10 s)	$T_{std}$	260	$^\circ\text{C}$

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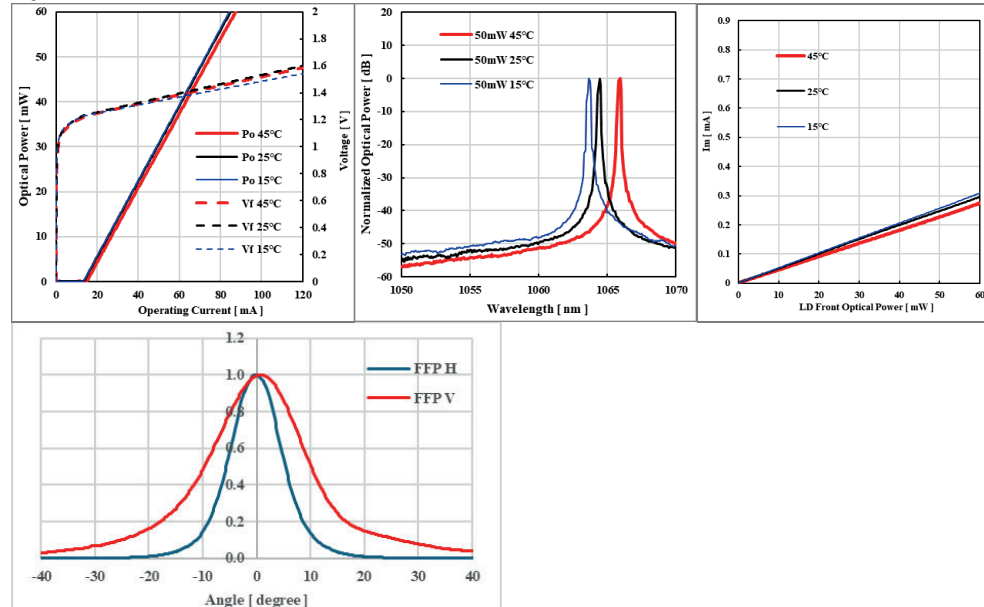
## 5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

PARAMETER		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	QLD103E-6450	$\lambda_p$	CW, $P_O = 50$ mW	1059*	1064	1069*	nm
	QLD103E-3050			1025*	1030	1035*	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
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	30	40	-	dB
Far field Pattern Horizontal		$\theta_h$	CW, $P_O = 50$ mW	-	10	-	deg.
Far field Pattern Vertical		$\theta_v$	CW, $P_O = 50$ mW	-	22	-	deg.
Monitor PD Current		$I_m$	CW, $P_O = 50$ mW, $V_{RPD} = 5$ V	-	250	-	$\mu\text{A}$
Dark Current (PD)		$I_d$	$V_{RPD} = 5$ V	-	-	20	nA

\*Peak wavelength tolerance of  $\pm 1$  nm is available as an option.

### •QLD103E-6450-ST

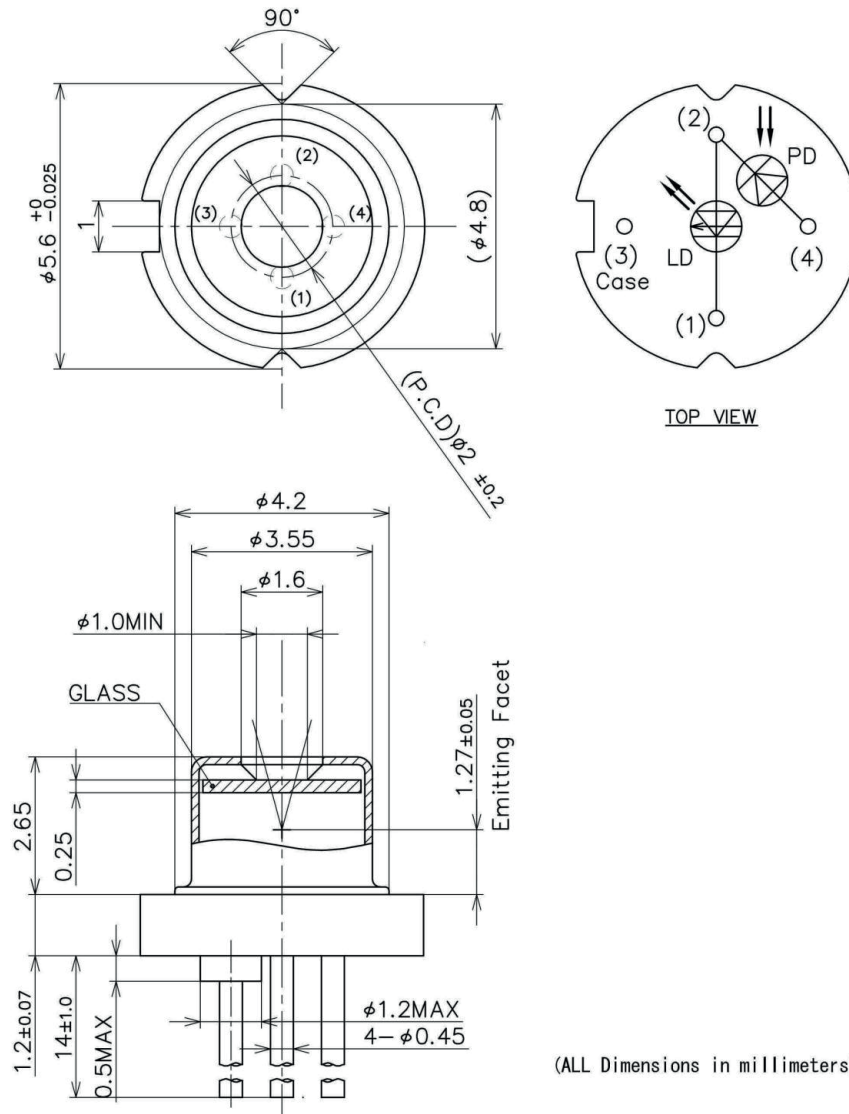


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## OUTLINE DRAWING



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**NOTICE**

- Safety Information

This product is classified as Class 3B laser product.

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

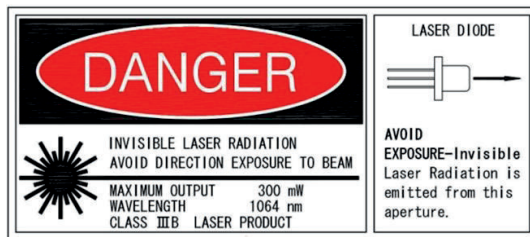
Semiconductor lasers are easily damaged by external stress such as excess temperature and ESD.

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.

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