QD LASER

QLF083A-50B0/QLF083D-50B0

850 nm FP LASER TO-CAN C00295-01 July 2024

1. DESCRIPTION

The QLF083A-50B0/QLF083D-50B0 are 850 nm quantum well laser devices designed for high output power application. The laser diode is mounted into a TO-56 header including a monitor PD and hermetic sealed with a flat glass cap.

2. FEATURES

- 850 nm FP-LD
- Φ5.6mm TO-CAN package
- High output power and high slope efficiency
- Including monitor PD
- Two types of pin assignments: anode common type (QLF083A-50B0)/cathode common type (QLF083D-50B0)

3. APPLICATIONS

- Particle inspections
- Measuring instruments
- Sensor

4. ABSOLUTE MAXIMUM RATING

(CW operation, T_c = 25°C, unless otherwise specified)

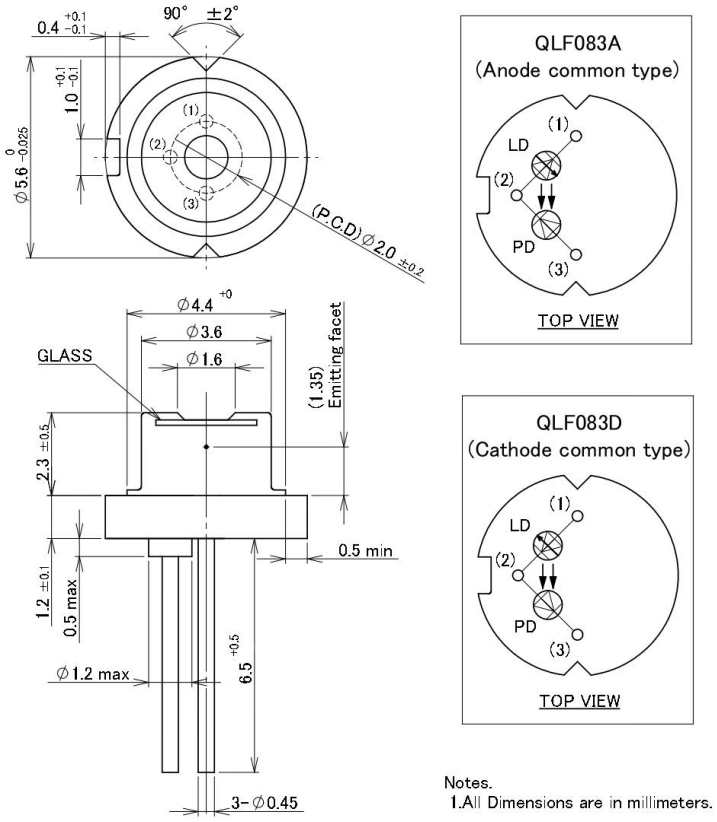
PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_o(CW)	220	mW
LD reverse voltage	V_{RLD}	2	V
PD reverse voltage	V_{RPD}	20	V
Operation temperature	T_c	-10 to 60	°C
Storage temperature	T_{stg}	-40 to 85	°C

5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_c = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Threshold current	I_{th}	CW	-	40	60	mA
Operation current	I_{op}	CW, P_o=200 mW	-	250	350	mA
Operation voltage	V_{op}	CW, P_o=200 mW	-	2.4	2.8	V
Slope efficiency	H	CW, P_o=150 - 200 mW	0.7	0.95	1.5	W/A
Monitor current	I_m	CW, P_o=200 mW, V_{RD}=5 V	100	400	1000	μA
Peak wavelength	λ_p	CW, P_o=200 mW	842	852	862	nm
Beam divergence horizontal	θ_h	CW, P_o=200 mW (FWHM)	7	9.5	12	deg.
Beam divergence vertical	θ_v	CW, P_o=200 mW (FWHM)	13	19	23	deg.
Beam angle Horizontal	$\Delta\theta_h$	CW, P_o=200 mW	-3	-	3	deg.
Beam angle vertical	$\Delta\theta_v$	CW, P_o=200 mW	-4	-	4	deg.

6. Outline Drawing



Notes.
1.All Dimensions are in millimeters.

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 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

QD Laser, Inc.
Contact : info@qdlaser.com http://www.qdlaser.com

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