



QLF093A-0540/QLF093D-0540

905nm 40mW FP LASER TO-CAN

Preliminary

C00098-03 August. 2021



1. DESCRIPTION

The QLF093x-0540 series is a 905 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

- 905nm FP-LD
- Φ 5.6mm TO-CAN package including monitor PD
- Two types of pin assignments: anode common type (QLF093A-0540) / cathode common type (QLF093D-0540)

3. APPLICATIONS

- Sensing
- Industrial application

4. ABSOLUTE MAXIMUM RATING

(CW operation, $T_c = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Optical output power	$P_o(\text{CW})$	60	mW
	$P_o(\text{Pulse})^*$	300	mW
LD reverse voltage	V_{RLD}	2	V
PD reverse voltage	V_{RPD}	30	V
Operation temperature	T_c	-10 to 70	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to 85	$^\circ\text{C}$

*note : Pulse width < 10nsec, Duty < 0.1%

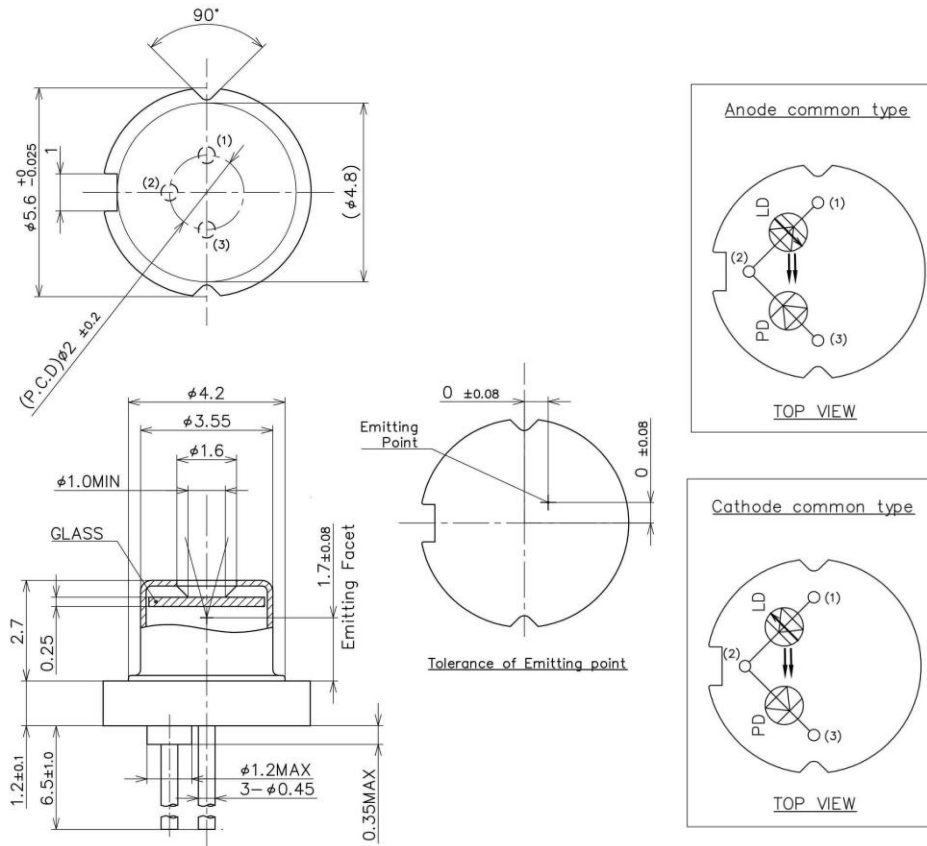
5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_c = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Threshold current	I _{th}	CW	-	30	55	mA
Operation current	I _{op}	CW, P _o =40 mW	-	75	100	mA
Operation voltage	V _{op}	CW, P _o =40 mW	-	2.1	2.5	V
Slope efficiency	η	CW, P _o =5 - 40 mW	0.8	0.9	-	W/A
Monitor current	I _m	CW, P _o =40 mW, V _{RD} =5 V	30	150	500	μA
Peak wavelength	λ _p	CW, P _o =40 mW	880	900	915	nm
Beam divergence*, Horizontal	θ _h	CW, P _o =40 mW	8	11	14	deg.
Beam divergence*, Vertical	θ _v	CW, P _o =40 mW	14	17	20	deg.
Beam angle, Horizontal	dθ _h	CW, P _o =40 mW	-3	-	3	deg.
Beam angle, Vertical	dθ _v	CW, P _o =40 mW	-3	-	3	deg.

*Beam divergence is FWHM of far field pattern.

6. Outline Drawing



All dimensions in millimeters
Unless otherwise specified, Tolerance $\pm 0.3 \text{ mm}$

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>

Copyright 2012-2021 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.