QD LASER

QLD0561 Series

Compact Visible Laser Module with Fiber Pigtail C00123-09 October 2025



1. DESCRIPTION

The QLD0561 series is a visible laser module based on the frequency doubling of NIR distributed feedback (DFB) laser. The laser is assembled into a compact flat package with fiber pigtail.

2. FEATURES

- 532, 561 and 594nm light source
- High fiber output power (SMF/PMF)
- Low power consumption
- Low intensity noise
- Narrow spectral linewidth
- Short pulse operation
- Small size



3. APPLICATIONS

- Spectroscopy
- Fluorescence microscope
- Time resolved measurement
- Interferometry

4. ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATING	UNIT
DFB forward current		I_{fDFB}	250	mA
DFB forward voltage		V_{fDFB}	2.5	V
DFB reverse voltage		V_{rDFB}	2	V
SOA forward current		I_{fSOA}	320	mA
SOA forward voltage		V_{fSOA}	3	V
SOA reverse voltage		V_{rSOA}	2	V
Fiber output power	QLD0561-xx02	P_f	3	mW
	QLD0561-xx15		20	
	QLD0561-xx20		25	
	QLD0561-xx25		30	
Heater power		P_{ht}	0.3	W
Module operating temperature		T_{op}	20 to 30	°C
Storage temperature		T_{st}	-10 to 50	°C

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5. OPTICAL AND ELECTRICAL CHARACTERISTICS

(T_C = 25°C, unless otherwise specified)

PARAMETER		SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
DFB operation current		I_{opDFB}	CW, P_f= P_{op}	-	150	220	mA
DFB operation voltage		V_{opDFB}	CW, P_f= P_{op}	-	1.8	2.4	V
SOA operation current		I_{opSOA}	CW, P_f= P_{op}	-	200	320	mA
SOA operation voltage		V_{opSOA}	CW, P_f= P_{op}	-	1.7	3.0	V
Heater current		I_{heater}	-	0	-	100	mA
Heater resistance		R_{heater}	-	-	30	-	Ω
Power consumption		P_c	CW, P_f= P_{op}	-	0.8	-	W
Peak wavelength (xx: Fiber output power)	QLD0561-32xx	λ_p (*1)	CW, P_f= P_{op}	530	532	534	nm
	QLD0561-61xx			559	561	563	nm
	QLD0561-94xx			592	594	596	nm
Fiber output power (xx: Peak wavelength)	QLD0561-xx02	P_f	CW(*2)	2	-	-	mW
	QLD0561-xx15			15	-	-	
	QLD0561-xx20			20	-	-	
	QLD0561-xx25			25	-	-	
Spectral linewidth		Δλ	CW, P_f= P_{op}	-	-	0.1	nm
Polarization extinction ratio (*3)		PER	CW, P_f= P_{op}	12	-	-	dB
Thermistor Resistance		R_{th}	T_C = 25°C, B=3375K	9.5	10	10.5	kΩ

(*1) Peak wavelength tolerance of +/- 1nm is available as an option.
(*2) Please refer to section 6 for available optical output power at each wavelength.
(*3) Specification for PMF pigtail option.

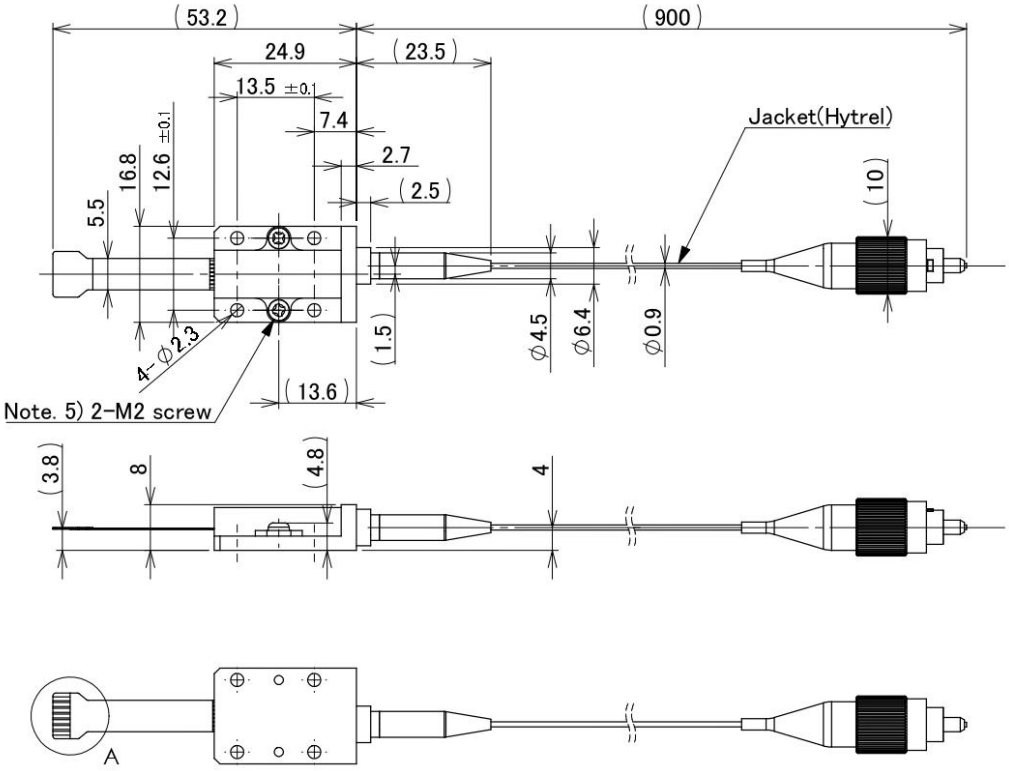
6. PRODUCT PART NUMBER

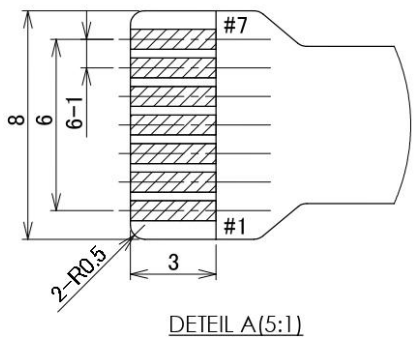
Part Number	Peak Wavelength	Fiber output power	Peak Power (*4)	Fiber option indicated by xy (*5)
QLD0561-3215-xy	532 nm	15 mW	not supported	x: Connector type 2: FC/PC 3: FC/APC y: Fiber type 3: SMF 245um coating 4: PMF 245um coating 6: SMF of Nufern S405XP 7: PMF of Nufern PM-S405-XP
QLD0561-3220-xy		20 mW	not supported	
QLD0561-3220-xy-G25			25 mW	
QLD0561-3225-xy		25 mW	not supported	
QLD0561-3225-xy-G25			25 mW	
QLD0561-6115-xy	561nm	15 mW	not supported	
QLD0561-6120-xy		20 mW	not supported	
QLD0561-6120-xy-G25			25 mW	
QLD0561-6125-xy		25 mW	not supported	
QLD0561-6125-xy-G25			25 mW	
QLD0561-9402-xy	594nm	2 mW	not supported	
QLD0561-9402-xy-G10			10 mW	

(*4) Peak Power is the minimum peak power value radiated when operated by an appropriate gain switching circuit.
(*5) For example, QLD0561-3220-37-G25 means the following, Peak wavelength: 532nm, Fiber output power: 20mW, Peak Power under gain swiching operetaion: 25mW, Connector type: FC/APC, Fiber Type: PMF of Nufern PM-S405-XP.

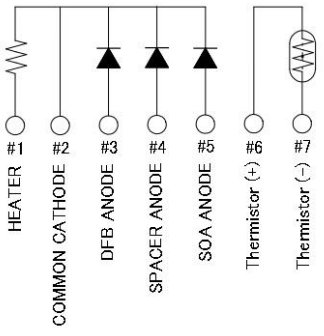
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7. OUTLINE DRAWING AND PIN CONFIGURATION



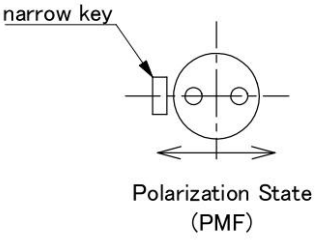


DETEIL A(5:1)



Notes.

1. All dimensions are in millimeters
2. Tolerance +/− 0.2mm, unless otherwise specified
3. Recommended FPC-connector: JST 07FM-1.0
4. Recommended screw torque: 4 x 0.1 N.m
5. Do not remove 2-M2 screw
6. The polarized direction of PMF is cf. right figre



Polarization State
(PMF)

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8. SETUP AND OPTICAL POWER ADJUSTMENT PROCEDURE

- Setup

Introduce individual current sourses for DFB and SOA with common cathode. Spacer anode pin shoud be left open for normal operation. If required, introduce the other current sourse for heater pin. Thermistor pins can be used for temperature monitoring of the module.

- Optical power adjustment

With measuring optical power,

(1) Adjust DFB (and Heater) current so that the optical power becomes the maximum.
(2) Adjust SOA current to obtain the required power within the maximum rating.
(3) If needed, repeat the procedure of (1) to (2).

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.



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