

# QLA1x61-xxA0

100mW DFB/SOA Laser Diode Butterfly Package

C00105-02 March. 2024



## 1. DESCRIPTION

The QLA1x61-xxA0 is a distributed feedback (DFB) laser with integrated semiconductor optical amplifier (SOA) for use in seeder and sensing applications. The laser is assembled into a 14-pin butterfly package with an optical isolator and a thermo-electric cooler.

## 2. FEATURES

- High fiber output power >100mW
- Single longitudinal mode operation at 1030, 1064, 1122 and 1188nm
- Fiber-pigtailed 14-pin butterfly package with a TEC
- Optical isolator integration
- Polarization maintaining fiber integration

## 3. APPLICATION

- Seeder
- Sensing
- Wavelength Conversion

## 4. ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATING	UNIT
Optical Output power	$P_f$	120	mW
DFB Forward Current	$I_{FSOA}$	200	mA
DFB Reverse Voltage	$V_{RDFB}$	2	V
SOA Forward Current	$I_{FSOA}$	320	mA
SOA Reverse Voltage	$V_{RSOA}$	2	V
TEC Drive Current	$I_{TEC}$	2	A
TEC Drive Voltage	$V_{TEC}$	4.3	V
Operation Temperature	$T_c$	0 to 60	°C
Storage Temperature	$T_{stg}$	-40 to 85	°C
Lead Soldering Temperature (5 s)	$T_{sld}$	230	°C

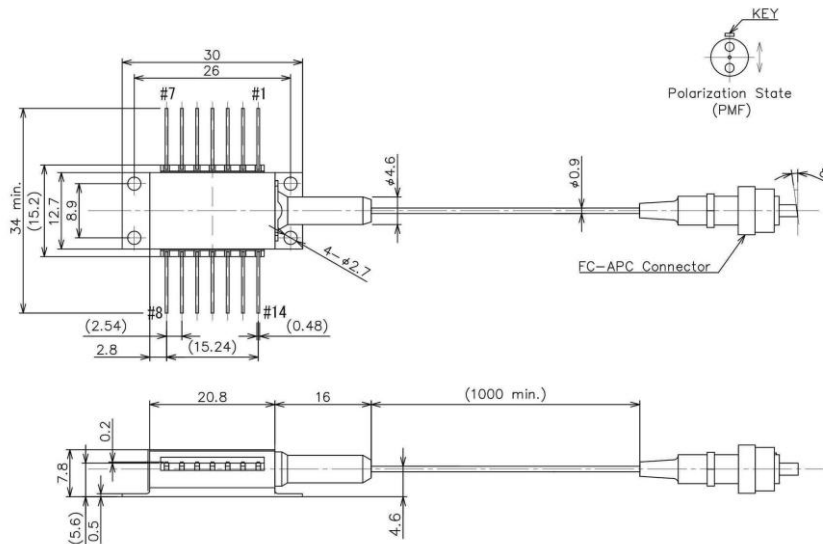
## 5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

PARAMETER		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	QLA1061-30A0	$\lambda_p$	CW, $P_f=100\text{ mW}$	1025*	1030*	1035*	nm
	QLA1061-64A0			1059*	1064	1069*	
	QLA1161-22A0			1117*	1122	1127*	
	QLA1161-88A0			1183*	1188	1193*	
Fiber Output Power		$P_f$	CW	100	-	-	mW
Threshold Current		$I_{th}$	CW	-	30	-	mA
DFB Operation Current		$I_{opDFB}$	CW, $P_f=100\text{ mW}$	-	100	180	mA
DFB Operation Voltage		$V_{opDFB}$	CW, $P_f=100\text{ mW}$	-	-	2.5	V
SOA Operation Current		$I_{opSOA}$	CW, $P_f=100\text{ mW}$	-	250	300	mA
SOA Operation Voltage		$V_{opSOA}$	CW, $P_f=100\text{ mW}$	-	-	2.5	V
Sidemode Suppression Ratio		SMSR	CW, $P_f=100\text{ mW}$	-	40	-	dB
Polarization Extinction Ratio		PER	CW, $P_f=100\text{ mW}$	15	20	-	dB
Thermistor Resistance		$R_{th}$	$T_{LD} = 25^{\circ}\text{C}$ , $B=3900\text{K}$	9.5	10	10.5	k $\Omega$

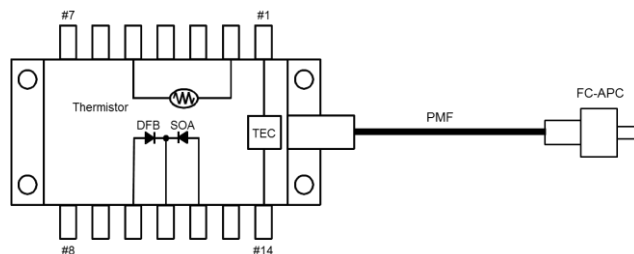
\*Peak wavelength tolerance of +/-1nm is available as an option.

## 6. OUTLINE DRAWING

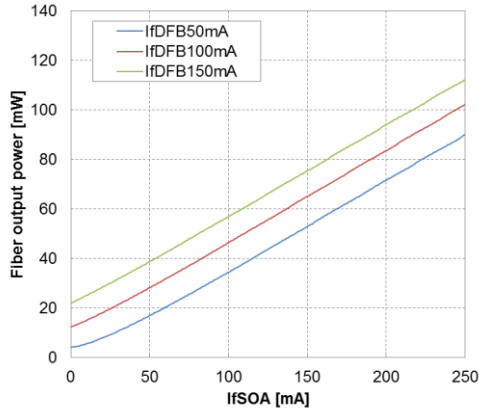


## 7. PIN CONFIGURATION

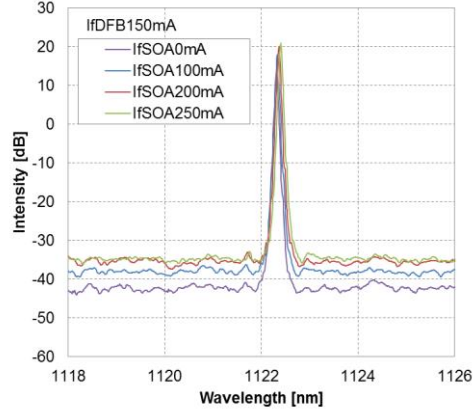
No.	Description	No.	Description
1	TEC (+)	8	NC
2	Thermistor	9	NC
3	NC	10	DFB Anode
4	NC	11	Common Cathode
5	Thermistor	12	SOA Anode
6	NC	13	Case Ground
7	NC	14	TEC (-)



8. TYPICAL OPERATING CHARACTERISTICS



Light output characteristics



Spectral characteristics

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.

• RoHS

This product conforms to RoHS compliance related Directive (EU) 2015/863.

<p><b>DANGER</b></p> <p>INVISIBLE LASER RADIATION AVOID DIRECTION EXPOSURE TO BEAM</p> <p>MAXIMUM OUTPUT 300 mW WAVELENGTH 1000~1200 nm CLASS 3B LASER PRODUCT</p>	<p>LASER DIODE</p> <p>AVOID EXPOSURE-Invisible Laser Radiation is emitted from this aperture.</p>
<p>This product complies with 21 CFR Part 1040.10</p> <p><b>QD Laser, Inc.</b></p> <p>1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0855 Japan</p>	

QD Laser, Inc.

Contact : [info@qdlaser.com](mailto:info@qdlaser.com) <https://www.qdlaser.com>

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

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