

QDLASER

QLA1x61-xxA0

100mW DFB/SOA Laser Diode Butterfly Package

Preliminary

C00105-01 April, 2013



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 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

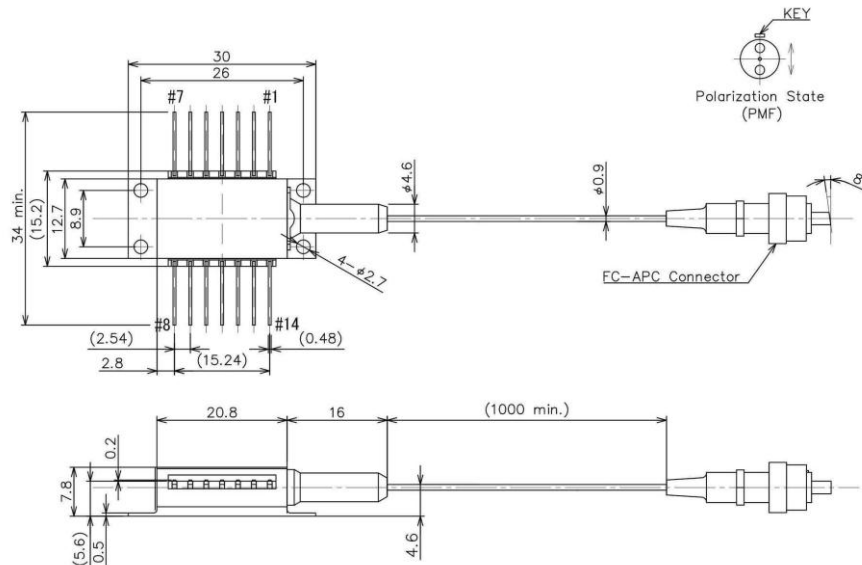
5. OPTICAL AND ELECTRICAL CHARACTERISTICS

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

PARAMETER		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Wavelength	QLA1061-64A0	λ_p	CW, $P_f=100\text{ mW}$	1059*	1064	1069*	nm
	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	$k\Omega$

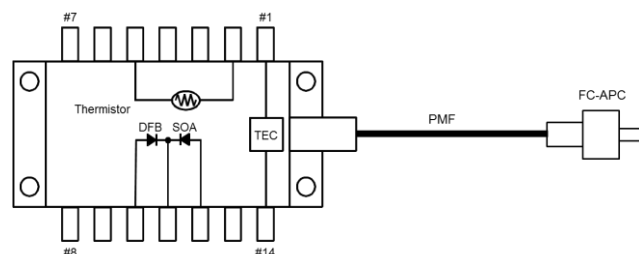
*Peak wavelength tolerance of +/-1nm is available as an option.

6. OUTLINE DRAWING

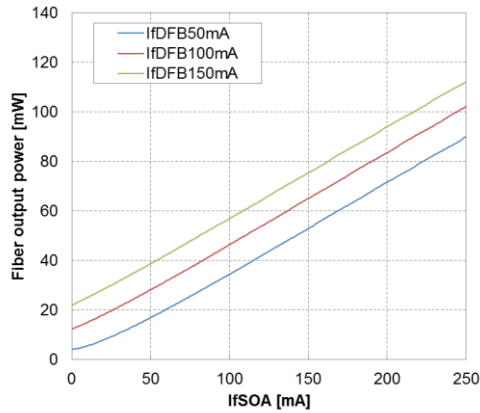


7. PIN CONFIGURATION

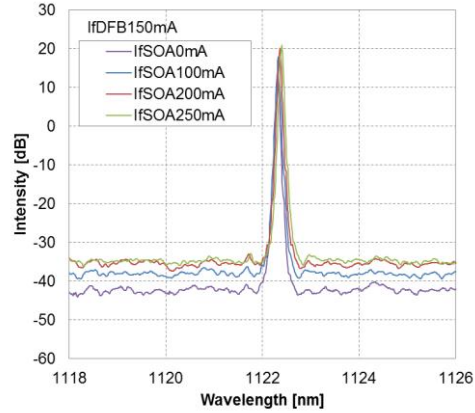
No.	Description	No.	Description
1	TEC (+)	8	NC
2	Thermistor	9	NC
3	NC	10	DFB Anode
4	NC	11	Common Cathode
5	Thermistor	12	SOA Anode
6	NC	13	Case Ground
7	NC	14	TEC (-)



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

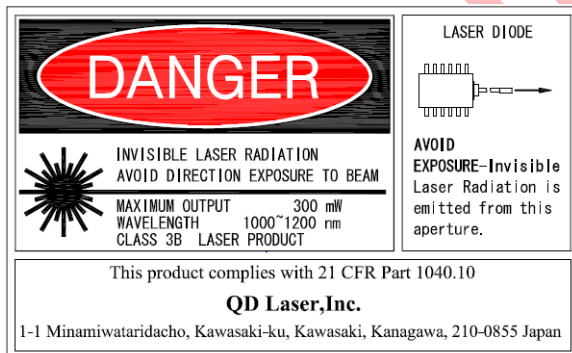
Semiconductor lasers are easily damaged by external stress such as excess temperature and ESD.

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 EU Directive 2002/95/EC.



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