

QDLASER

QLD1335-AA

1.3- μm Quantum-dot DFB LD TO-CAN

Preliminary

C00128-01 April 2014



1. DESCRIPTION

QLD1335-AA is a quantum-dot (QD) distributed feedback (DFB) laser diode emitting at 1.3- μm wavelength range, which is specially designed for the operation at high temperatures (85°C to 125°C). The laser is mounted into a TO-56 header including a monitor PD and hermetically sealed with a lens cap.

2. FEATURES

- QD active layers for high-temperature operation
- Stable single-longitudinal-mode operation at 1.3- μm wavelength range
- $\phi 5.6\text{mm}$ TO-CAN package

3. APPLICATION

- Sensing in an extremely-high-temperature environment

4. ABSOLUTE MAXIMUM RATINGS

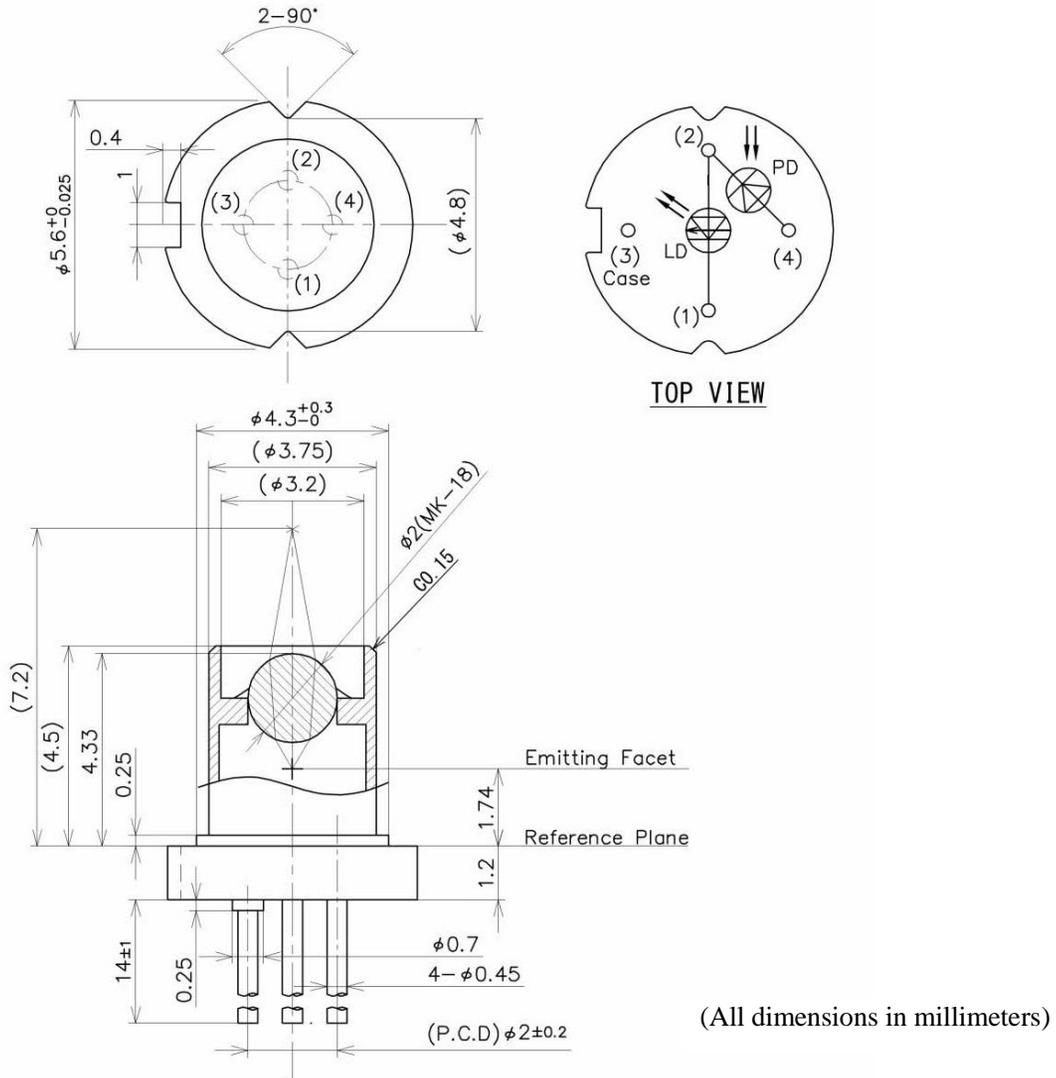
PARAMETER	SYMBOL	RATING	UNIT
Output power	P_O	30	mW
LD forward current	I_F	200	mA
LD reverse voltage	V_{RLD}	2	V
PD forward current	I_{FPD}	2	mA
PD reverse current	I_{RPD}	5	mA
PD reverse voltage	V_{RPD}	10	V
Operating temperature	T_c	85 to 125	°C
Storage temperature	T_{stg}	-40 to 85	°C
Lead soldering temperature (5 s)	T_{sld}	230	°C

5. OPTICAL AND ELECTRICAL CHARACTERISTICS (CW)

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit	
Threshold current	I_{th}		85°C	-	25	50	mA
			125°C	-	25	50	
Output power	P_o	$I_{op} = 100 \text{ mA}$	85°C	10	15	-	mW
			125°C	5	8	-	
Operating current	I_{op}	$P_o = 5 \text{ mW}$	85°C	-	40	60	mA
			125°C	-	60	90	
Operating voltage	V_{op}	$P_o = 5 \text{ mW}$	85°C	-	1.3	1.7	V
			125°C	-	1.4	1.8	
Peak wavelength	λ_p	$P_o = 5 \text{ mW}$	85°C	-	1300	-	nm
Temperature coefficient of λ_p	$d\lambda_p/dT$	$P_o = 5 \text{ mW}$, 85°C to 125°C		-	0.1	-	nm/K
Side mode suppression ratio *	SMSR	$P_o = 5 \text{ mW}$	85°C	30	40	-	dB
			125°C				
Spectral linewidth	$\Delta\nu$	$P_o = 5 \text{ mW}$	125°C	-	1	-	GHz
Relative intensity noise	RIN	$P_o = 5 \text{ mW}$, 1MHz to 10MHz	125°C	-	-130	-	dB/Hz
Monitor current	I_m	$P_o = 5 \text{ mW}$, $V_{RD} = 5 \text{ V}$	85°C	10	50	250	μA
			125°C				

* Single-longitudinal-mode operation can be obtained in the temperature range from 85°C to 125°C, while Fabry-Perot lasing at the gain peak may not be completely suppressed at less than 85°C.

6. OUTLINE DRAWING



7. NOTICES

- Safety Information

This product is classified as Class 3R laser product, and complies with 21 CFR Part 1040.10.

Please do not take a look 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

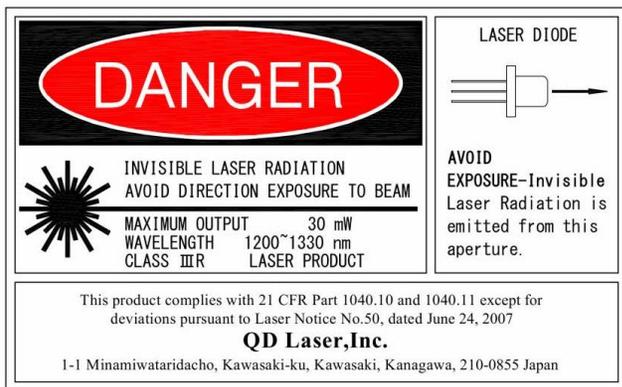
Semiconductor lasers are easily damaged by external stress such as excess temperature and ESD.

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 2011/65/EU.



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