

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL83R6S-A/B/C

**TENTATIVE**

Signature of Approval

Approved by \_\_\_\_\_

Checked by \_\_\_\_\_

Issued by \_\_\_\_\_

Approval by Customer

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# QL83R6S-A/B/C

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.2 Jul. 2015

### ◆ OVERVIEW

QL83R6S-A/B/C is a MOCVD grown 830nm band AlGaAs laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 200mW for industrial optical module and sensor applications.

### ◆ APPLICATION

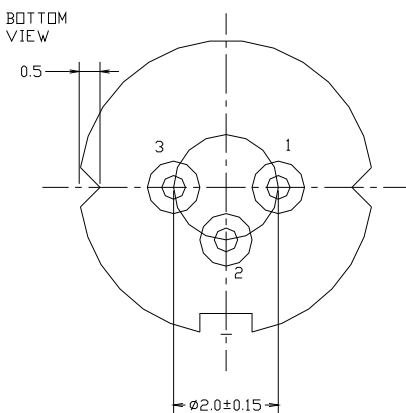
- Motion Recognition Sensor
- Industrial Optical Module

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 830 \text{ nm}$
- Optical Power Output : 200mW CW
- Package Type : TO-18 (5.6mm $\phi$ )
- Built-in Photo Diode for Monitoring Laser Diode

### ◆ ELECTRICAL CONNECTION

#### Bottom View



#### Pin Configuration

A	LD cathode, PD anode (Fig. 1)
B	LD , PD anode (Fig. 2)
C	LD anode, PD cathode (Fig. 3)

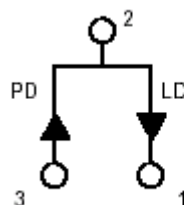


Fig. 1  
QL83R6SA

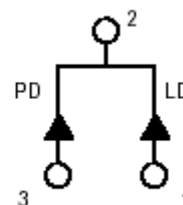


Fig. 2  
QL83R6SB

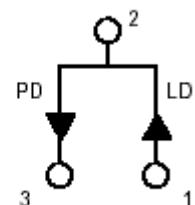


Fig. 3  
QL83R6SC

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	210	mW
Laser Diode Reverse Voltage	V	2	V
Photo Diode Reverse Voltage	V	30	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

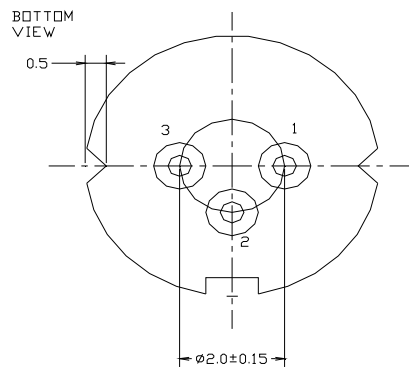
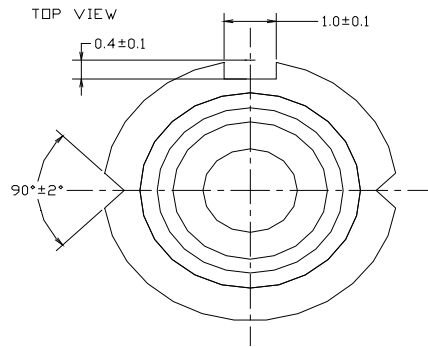
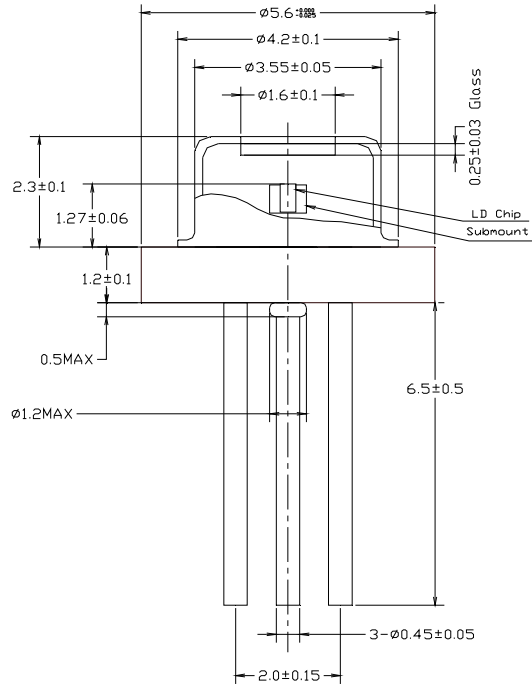
◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	Po	-	200	-	mW	-
Threshold Current	Ith	30	50	85	mA	-
Operating Current	Iop	180	220	240	mA	Po=200mW
Slope Efficiency	SE	0.8	1.0	1.4	mW/mA	Po=200mW
Operating Voltage	Vop	1.8	2.1	2.5	V	Po=200mW
Lasing Wavelength	$\lambda_p$	815	825	840	nm	Po=200mW
Beam Divergence	$\theta_{  }$	5	9	13	deg	Po=200mW
	$\theta_{\perp}$	12	18	24	deg	Po=200mW
Beam Angle	$\Delta\theta_{  }$	-	-	±2	deg	Po=200mW
	$\Delta\theta_{\perp}$	-	-	±3	deg	Po=200mW
Monitor Current	I <sub>m</sub>	0.01	0.3	1.0	mA	Po=200mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	

**NOTICE : QL83R6S-A/B/C to be operated on APC**

The above product specifications are subject to change without notice.

# ◆ PACKAGE DIMENSION



◆PACKING

