

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL78M6S-A/B/C

*Tentative*

**Signature of Approval**

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

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

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

**Approval by Customer**

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# QL78M6S-A/B/C

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 1 MAR. 2013

### ◆ OVERVIEW

**QL78M6S-A/B/C** is a MOCVD grown 780nm band *AlGaAs* laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 90mW for industrial optical module and sensor application

### ◆ APPLICATION

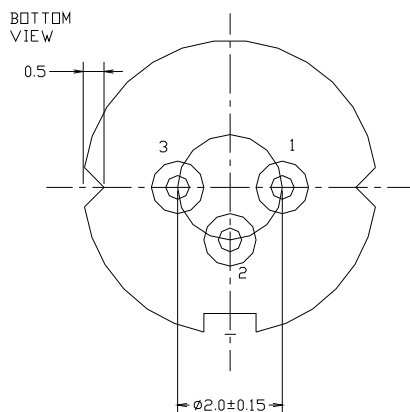
- Sensor
- Industrial optical module

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 90mW 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)

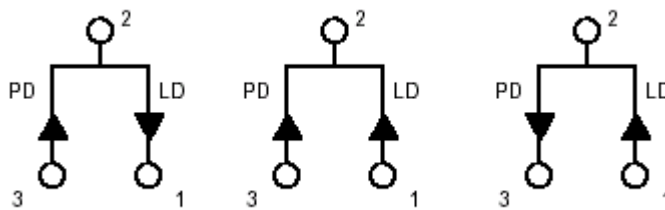


Fig. 1

QL78M6SA

Fig. 2

QL78M6SB

Fig. 3

QL78M6SC

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	100	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

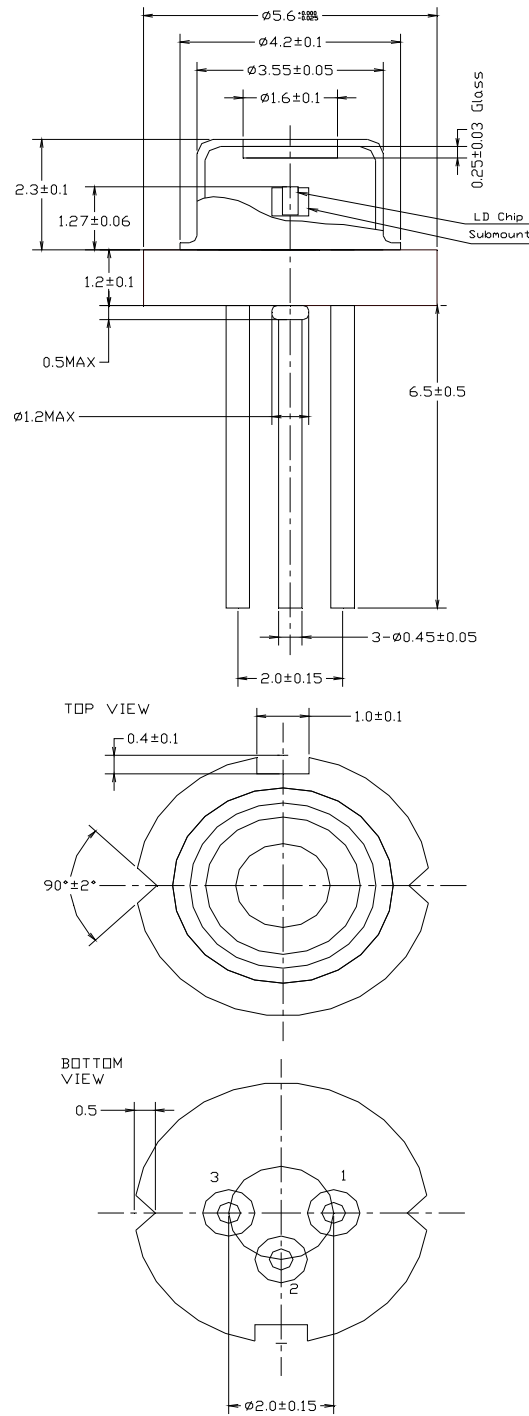
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	90	-	mW	-
Threshold Current	Ith	-	30	50	mA	-
Operating Current	Iop	-	125	160	mA	Po=90mW
Differential efficiency	$\eta$	0.7	1.0	1.3	mW/mA	45~90mW
Operating Voltage	Vop	-	2.2	2.5	V	Po=90mW
Lasing Wavelength	$\lambda_p$	770	780	790	nm	Po=90mW
Beam Divergence	$\theta_{  }$	7	10	13	deg	Po=90mW
	$\theta_{\perp}$	19	22	25	deg	Po=90mW
Beam Angle	$\Delta\theta_{  }$	-	-	$\pm 2.0$	deg	
	$\Delta\theta_{\perp}$	-	-	$\pm 3.0$	deg	
Monitor Current	I <sub>m</sub>	0.1	0.4	0.8	mA	Po=90mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	$\pm 60$	$\mu\text{m}$	

**NOTICE : QL78M6S-A/B/C to be operated on APC**

The above product specifications are subject to change without notice.



# ◆ PACKAGE DIMENSION



# ◆PACKING

