

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

**Customer :**

**Model : QL78H6S-A/B/C**

**Signature of Approval**

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

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

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

**Approval by Customer**

---



**QSI Co., Ltd.**

**315-9, Cheonheung-ri, Sungger-eup,  
Cheonan-city, Chungnam, Korea 330-836**

**[WWW.QSILaser.com](http://WWW.QSILaser.com)**

# QL78H6S-A/B/C

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.3 June. 2011

### ◆ OVERVIEW

**QL78H6S-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 20mW for industrial optical module and sensor application

### ◆ APPLICATION

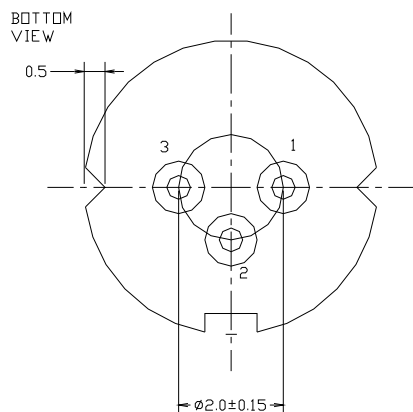
- Sensor
- Industrial optical module

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 20mW 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)

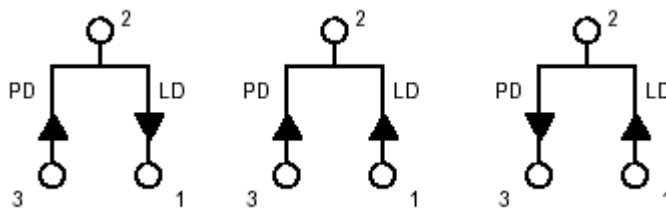


Fig. 1

QL78H6SA

Fig. 2

QL78H6SB

Fig. 3

QL78H6SC

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	22	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

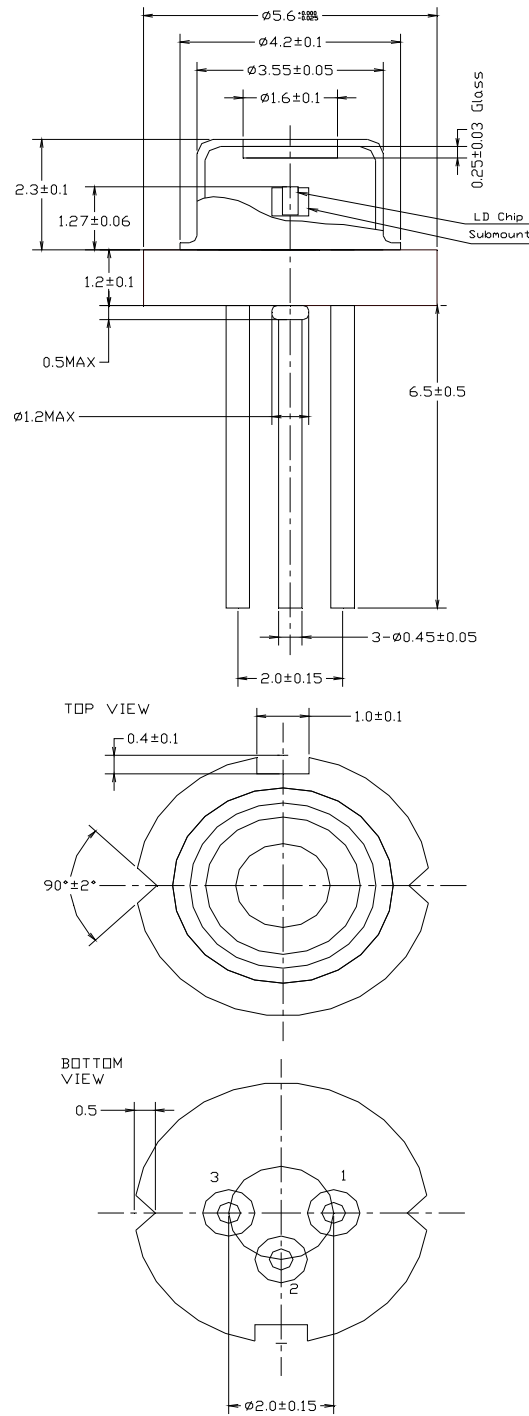
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	20	-	mW	-
Threshold Current	Ith	-	15	20	mA	-
Operating Current	Iop	20	35	50	mA	Po=20mW
Differential efficiency	$\eta$	0.5	0.9	1.4	mW/mA	Po=20mW
Operating Voltage	Vop	1.6	1.9	2.3	V	Po=20mW
Lasing Wavelength	$\lambda_p$	775	788	800	nm	Po=20mW
Beam Divergence	$\theta_{  }$	8.5	11	14	deg	Po=20mW
	$\theta_{\perp}$	26	30	34	deg	Po=20mW
Beam Angle	$\Delta\theta_{  }$	-	-	$\pm 2.0$	deg	Po=20mW
	$\Delta\theta_{\perp}$	-	-	$\pm 3.0$	deg	Po=20mW
Monitor Current	I <sub>m</sub>	0.8	-	2.2	mA	Po=20mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	$\pm 60$	$\mu\text{m}$	Po=20mW
Astigmatism	As			10	$\mu\text{m}$	Po=20mW

**NOTICE : QL78H6S(A,B,C) to be operated on APC**

The above product specifications are subject to change without notice.



# ◆ PACKAGE DIMENSION



## ◆PACKING

