

# **QSI LASER DIODE**

## **SPECIFICATIONS FOR APPROVAL**

**Customer :**

**Model : QL78I6S-A/B/C-L**

### **Signature of Approval**

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

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

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

### **Approval by Customer**

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**WWW.QSILaser.com**

# QL78I6S-A/B/C-L

AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

2008-07-15

## ◆ OVERVIEW

**QL78I6S-A/B/C-L** 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 25mW for industrial optical module and sensor application

## ◆ APPLICATION

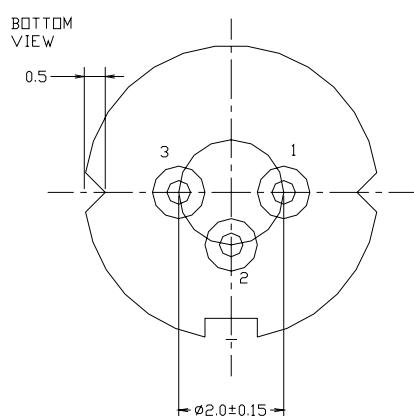
- Laser scanner unit
- Industrial optical module

## ◆ FEATURES

- Visible Light Output :  $\lambda_p = 785$  nm
- Optical Power Output : 25mW 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)

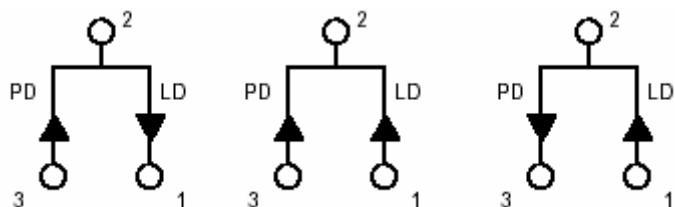


Fig. 1

QL78I6SA-L

Fig. 2

QL78I6SB-L

Fig. 3

QL78I6SC-L

## ◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	30	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

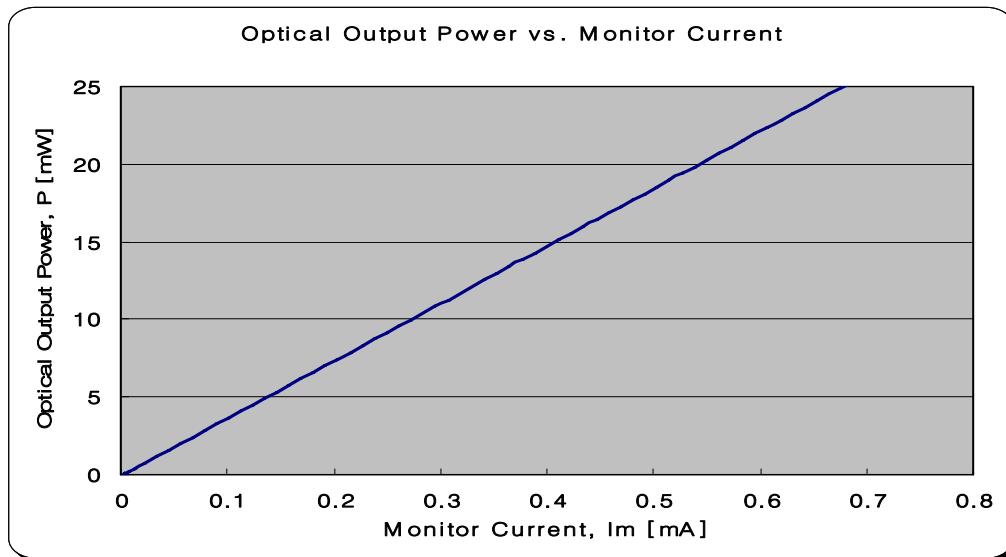
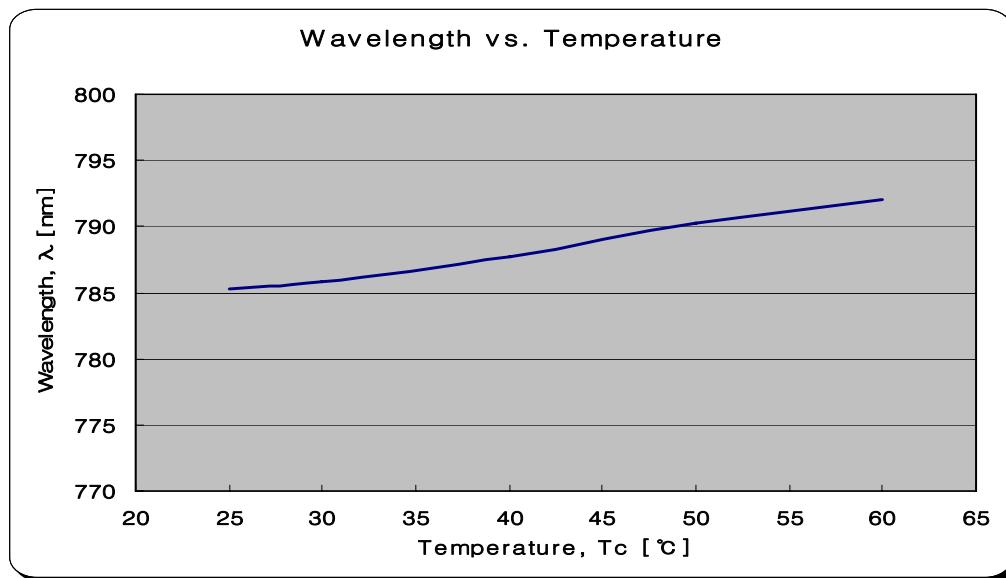
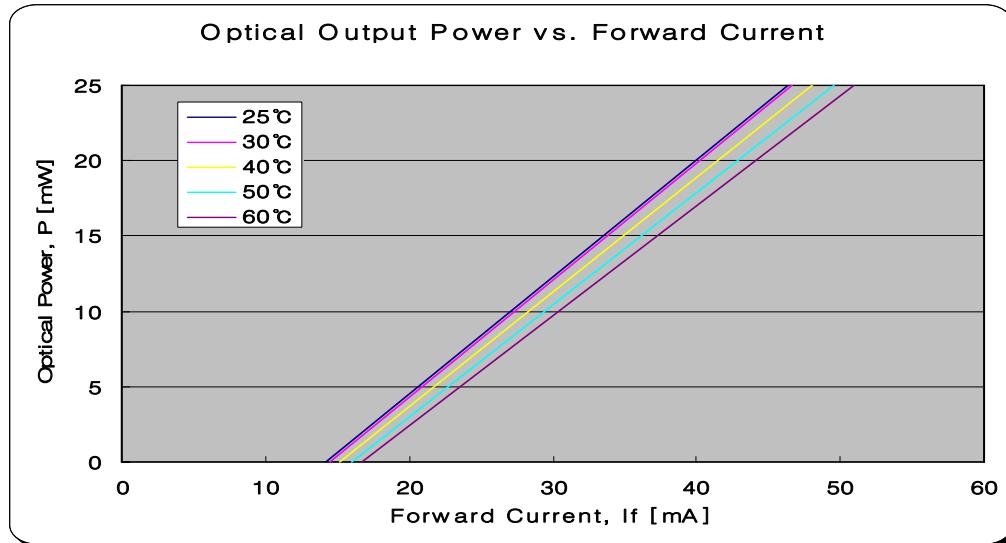
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	25	-	mW	-
Threshold Current	Ith	-	15	25	mA	-
Operating Current	Iop	30	45	60	mA	Po=25mW
Differential efficiency	n	0.5	0.9	1.4	mW/mA	Po=25mW
Operating Voltage	Vop	1.6	1.9	2.3	V	Po=25mW
Lasing Wavelength	λp	770	785	800	nm	Po=25mW
Beam Divergence	θ <sub>  </sub>	6	8	13	deg	Po=25mW
	θ <sub>⊥</sub>	25	30	34	deg	Po=25mW
Beam Angle	Δθ <sub>  </sub>	-	-	±2.0	deg	Po=25mW
	Δθ <sub>⊥</sub>	-	-	±3.0	deg	Po=25mW
Monitor Current	Im	0.5	-	1.5	mA	Po=25mW
Optical Distance	ΔX, ΔY, ΔZ	-	-	±60	μm	Po=25mW
Astigmatism	As			10	μm	Po=25mW

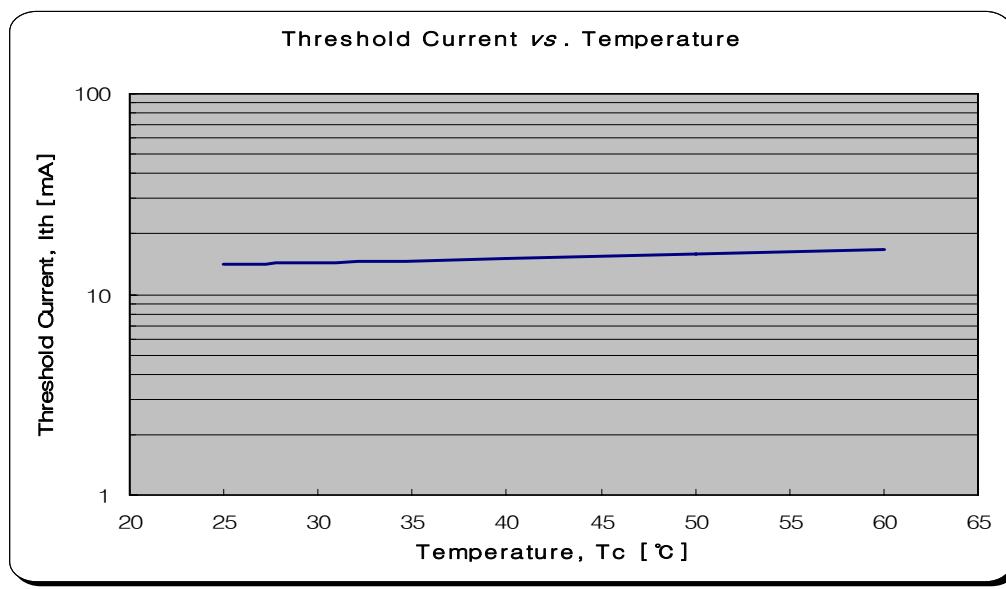
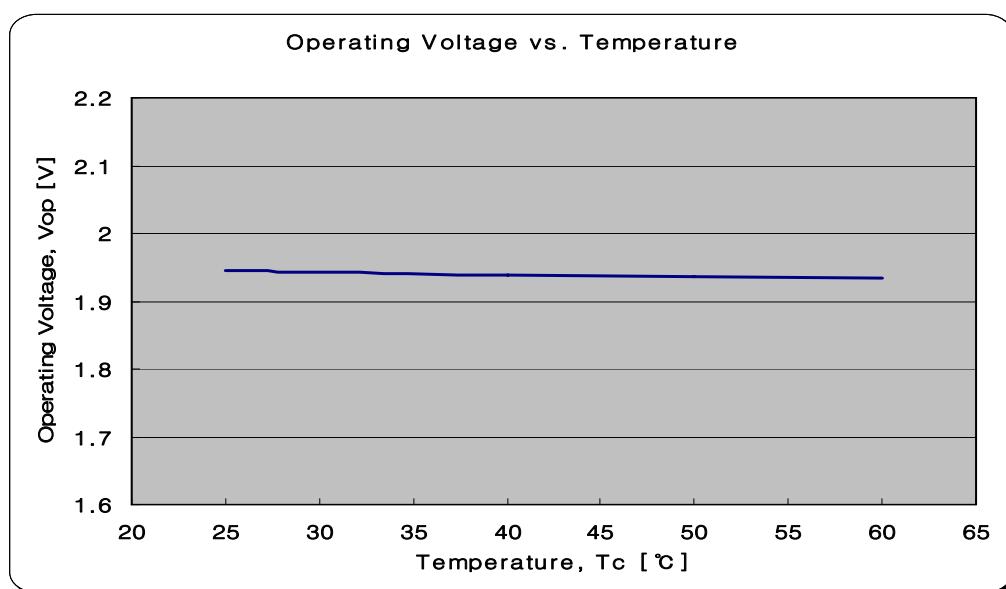
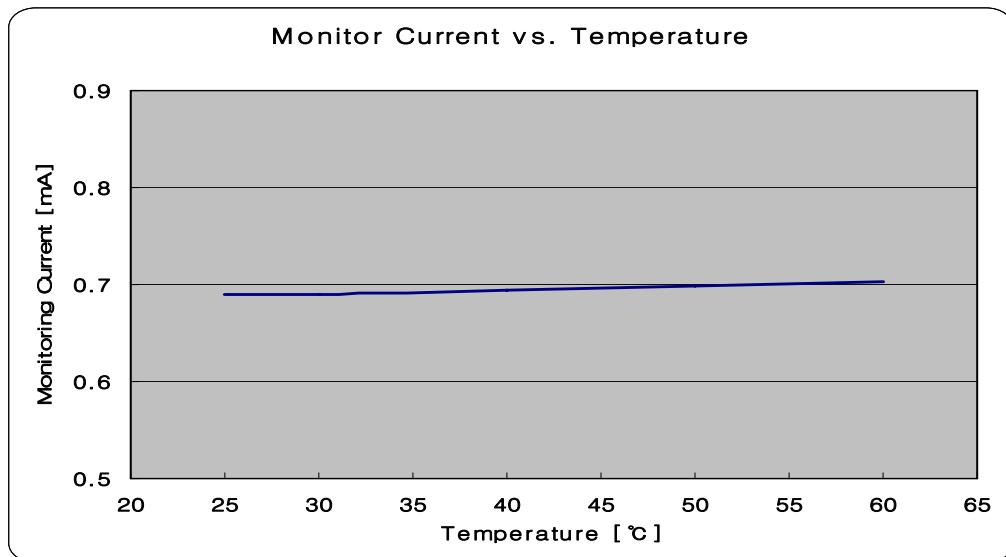
**NOTICE : QL78I6S-A/B/C-L to be operated on APC**

The above product specifications are subject to change without notice.

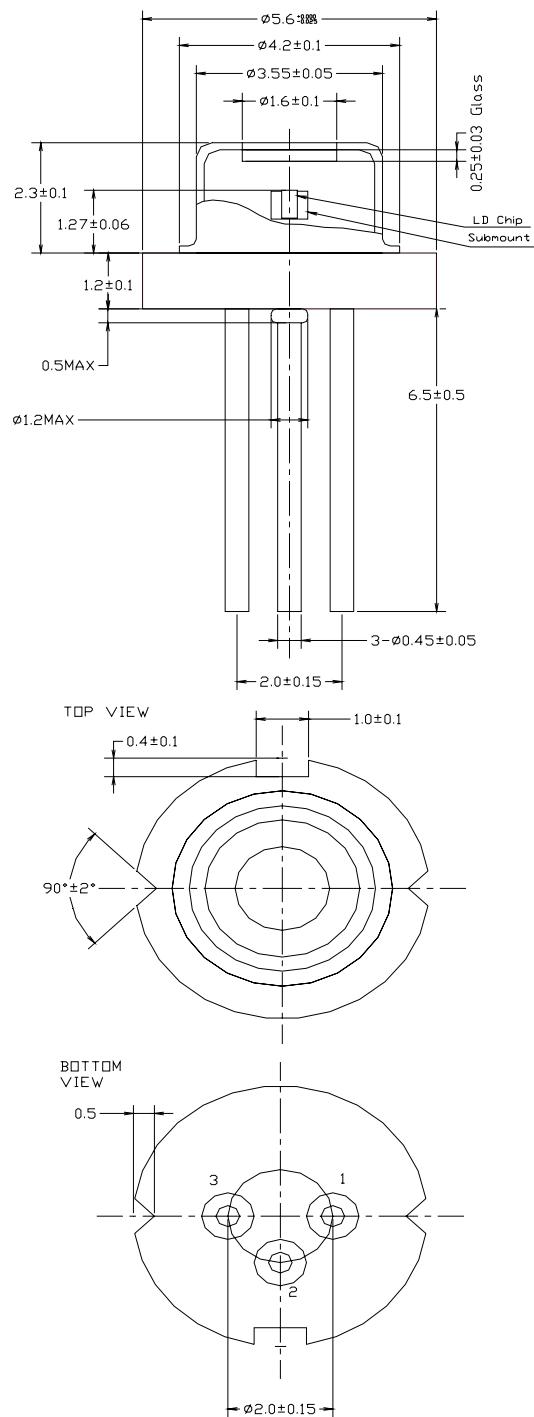


## ♦EXAMPLE of PRESENTATIVE CHARACTERISTICS





## ◆ PACKAGE DIMENSION



## ◆PACKING

