

# 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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# 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

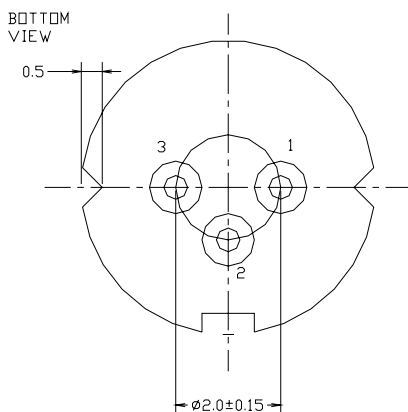
- Laser scanner unit
- Industrial optical module

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 785 \text{ nm}$
- 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)

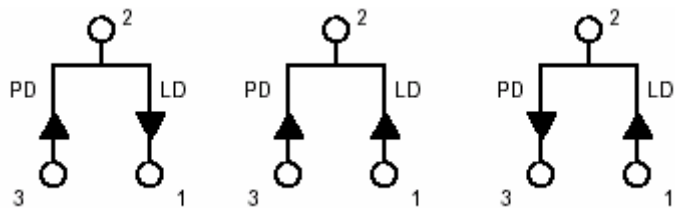


Fig. 1

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

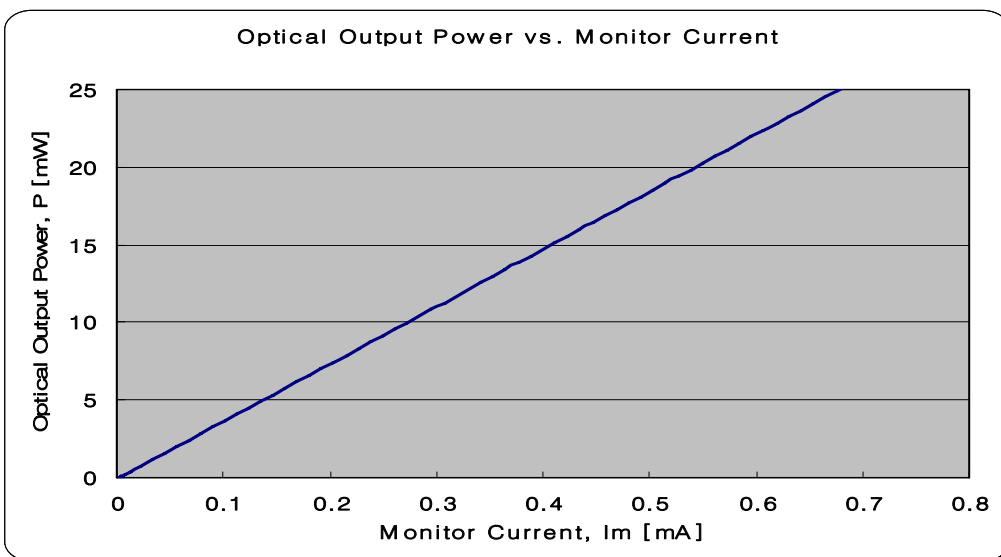
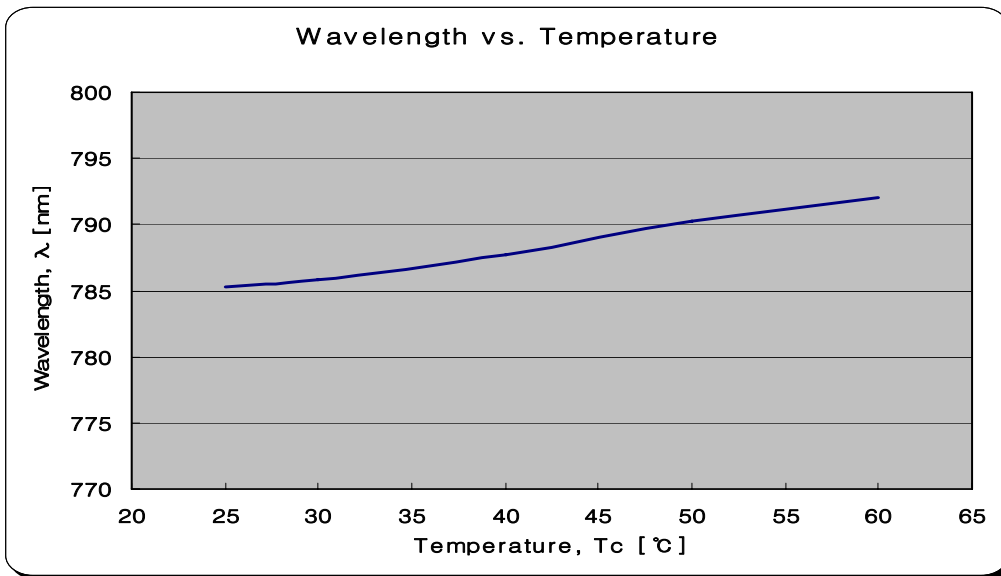
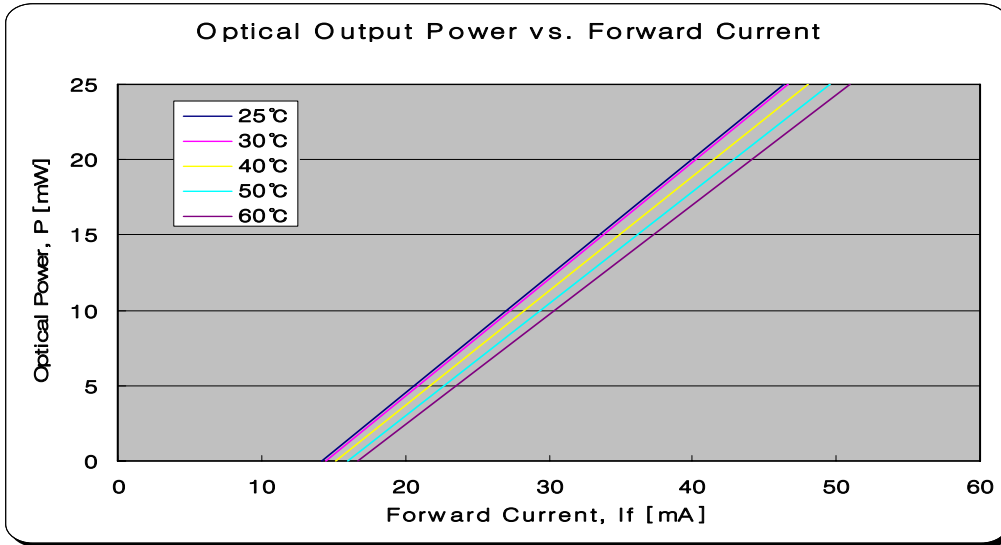
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	25	-	mW	-
Threshold Current	Ith	-	15	25	mA	-
Operating Current	Iop	30	45	60	mA	Po=25mW
Differential efficiency	$\eta$	0.5	0.9	1.4	mW/mA	Po=25mW
Operating Voltage	Vop	1.6	1.9	2.3	V	Po=25mW
Lasing Wavelength	$\lambda_p$	770	785	800	nm	Po=25mW
Beam Divergence	$\theta_{  }$	6	8	13	deg	Po=25mW
	$\theta_{\perp}$	25	30	34	deg	Po=25mW
Beam Angle	$\Delta\theta_{  }$	-	-	$\pm 2.0$	deg	Po=25mW
	$\Delta\theta_{\perp}$	-	-	$\pm 3.0$	deg	Po=25mW
Monitor Current	I <sub>m</sub>	0.5	-	1.5	mA	Po=25mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	$\pm 60$	$\mu\text{m}$	Po=25mW
Astigmatism	As			10	$\mu\text{m}$	Po=25mW

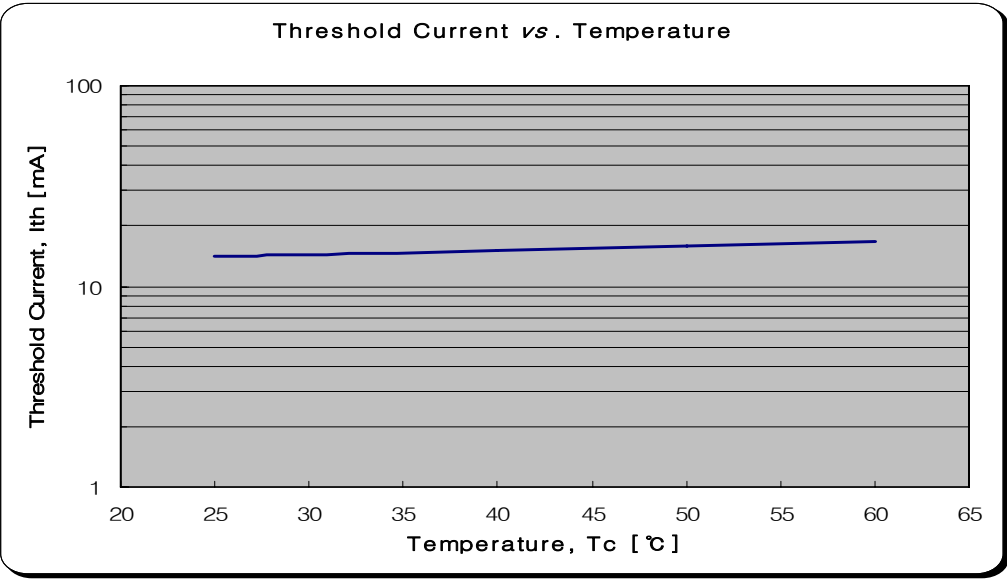
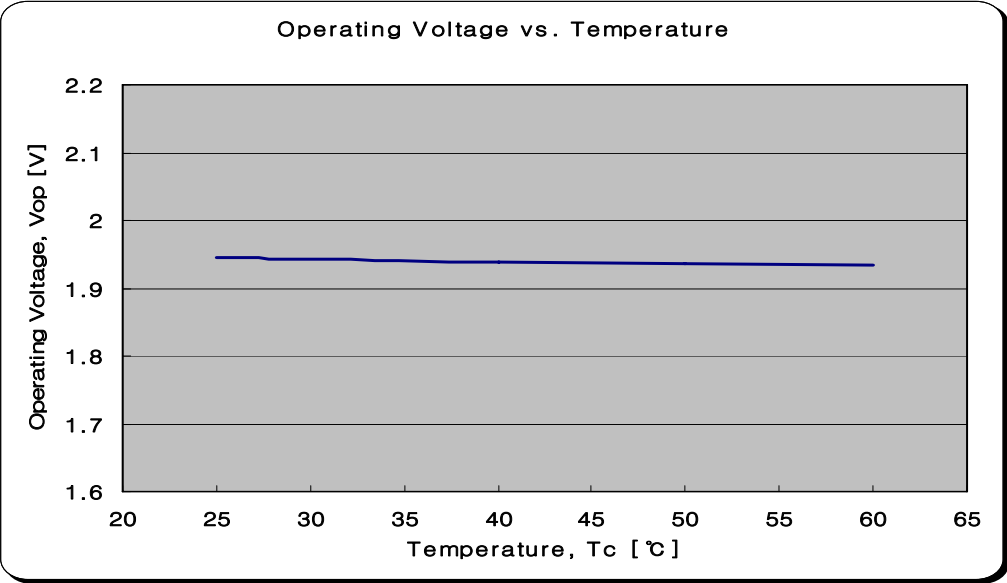
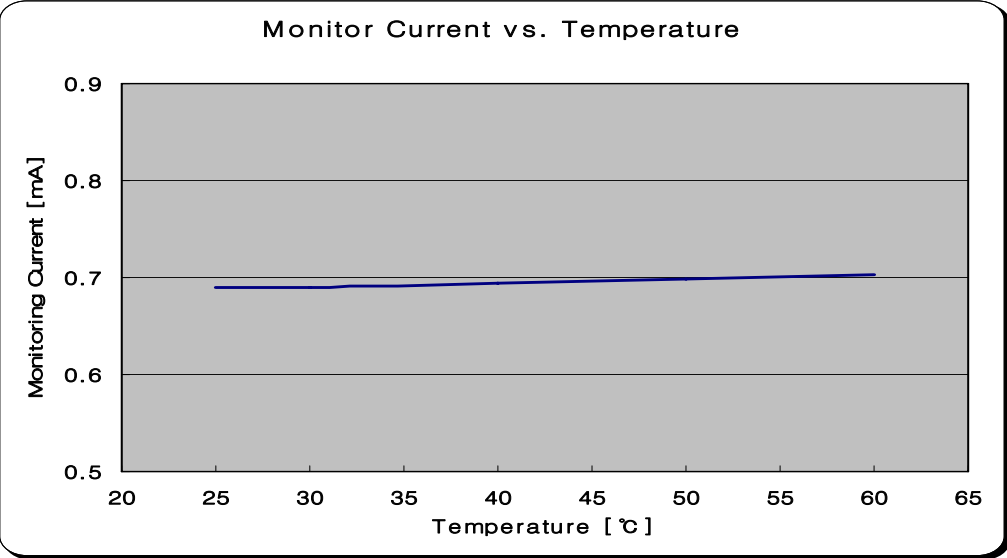
**NOTICE : QL78I6S-A/B/C-L to be operated on APC**

The above product specifications are subject to change without notice.

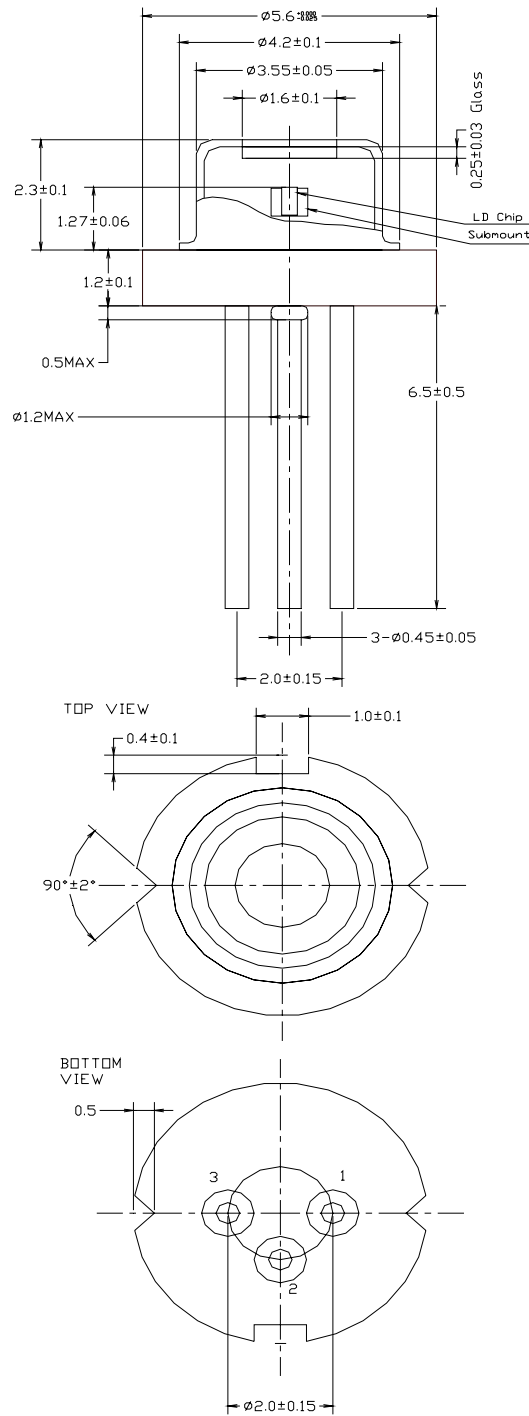


## ◆ EXAMPLE of PRESENTATIVE CHARACTERISTICS





# ◆ PACKAGE DIMENSION



◆PACKING

