

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

**Customer :**

**Model : QL78F6S-A/B/C**

**Signature of Approval**

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

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

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

**Approval by Customer**

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QSI Co., Ltd.

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

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

# QL78F6S-A/B/C

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 0 2004

### ◆ OVERVIEW

**QL78F6S-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 10mW for industrial optical module and sensor application

### ◆ APPLICATION

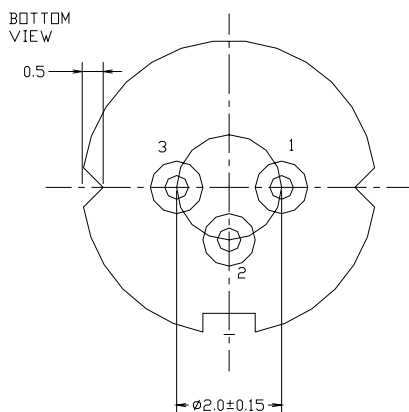
- Industrial optical module
- Laser Beam Printer

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 10mW CW
- Package Type : TO-18 (5.6mm $\phi$ )
- Built-in Photo Diode for Monitoring Laser Diode

### ◆ ELECTRICAL CONNECTION

#### Bottom View



#### Pin Configuration

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

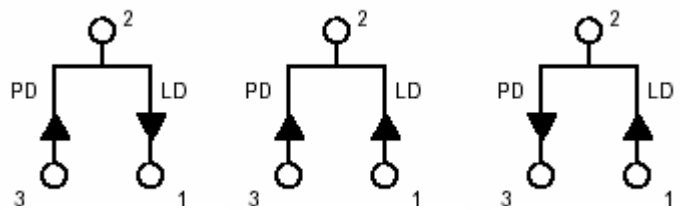


Fig. 1

QL78F6SA

Fig. 2

QL78F6SB

Fig. 3

QL78F6SC

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	12	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

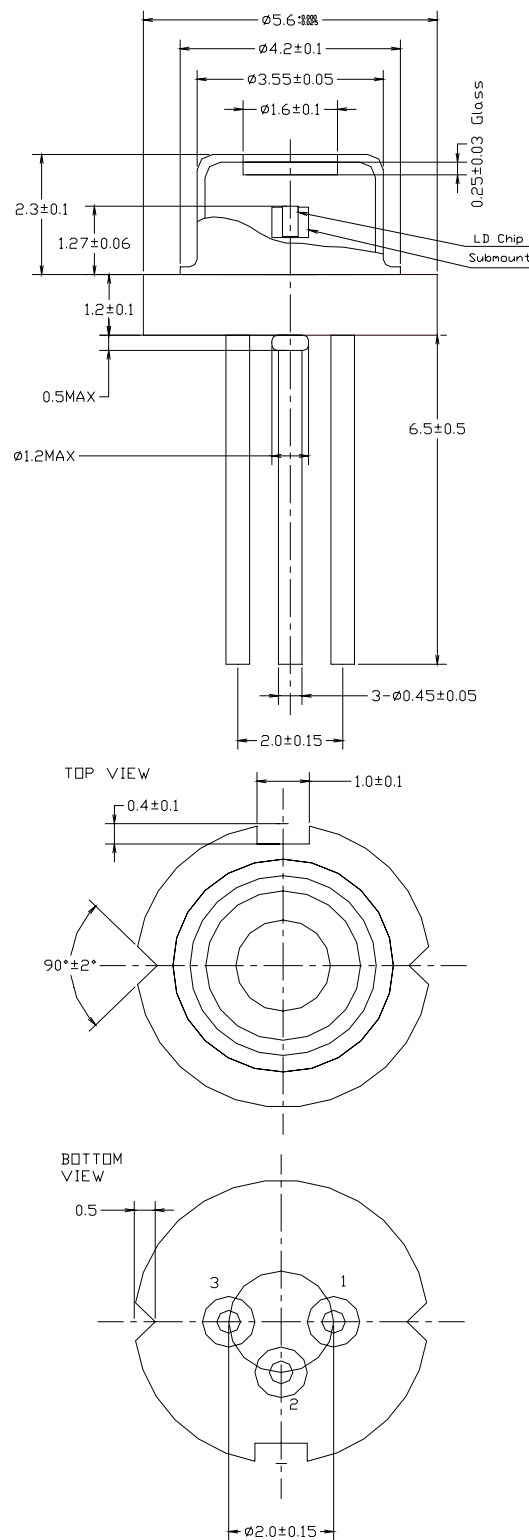
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	10	-	mW	-
Threshold Current	Ith	8	12	18	mA	-
Operating Current	Iop	-	22	40	mA	Po=10mW
Differential efficiency		0.55	0.75	0.95	mW/mA	$\frac{5mW}{I(10mW)-I(5mW)}$
Operating Voltage	Vop	1.5	1.8	2.4	V	Po=10mW
Lasing Wavelength	$\lambda_p$	775	788	800	nm	Po=10mW
Beam Divergence	$\theta_{  }$	6	8	11	deg	Po=10mW
	$\theta_{\perp}$	25	31	35	deg	Po=10mW
Beam Angle	$\Delta\theta_{  }$	-	-	±2.0	deg	Po=10mW
	$\Delta\theta_{\perp}$	-	-	±3.0	deg	Po=10mW
Monitor Current	I <sub>m</sub>	0.5	0.7	1.5	mA	Po=10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	Po=10mW
Astigmatism	As			10	μm	Po=10mW

**NOTICE : QL78F6S-A/B/C to be operated on APC**

The above product specifications are subject to change without notice.



# ◆ PACKAGE DIMENSION



◆PACKING

