

**QSI LASER DIODE  
TENTATIVE SPECIFICATIONS FOR  
APPROVAL**

**Customer :**

**Model : QL78F8SA**

**TENTATIVE**

**Signature of Approval**

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

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

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

**Approval by Customer**

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# QL78F8SA

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 2. 2017

### ◆ OVERVIEW

**QL78F8SA** 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

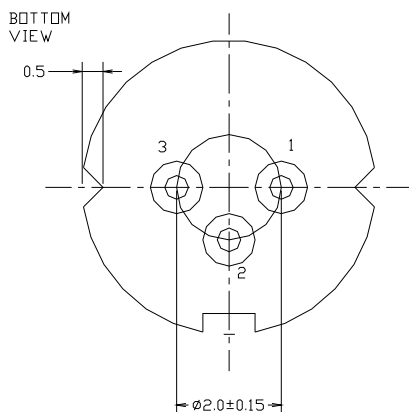
- Industrial optical module
- Laser Beam Printer

### ◆ 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)

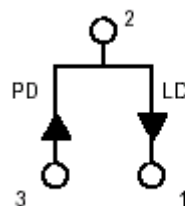


Fig. 1

QL78F6SA

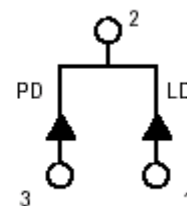


Fig. 2

QL78F6SB

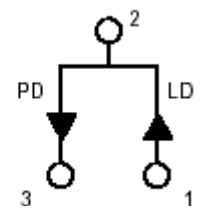


Fig. 3

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	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C

◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

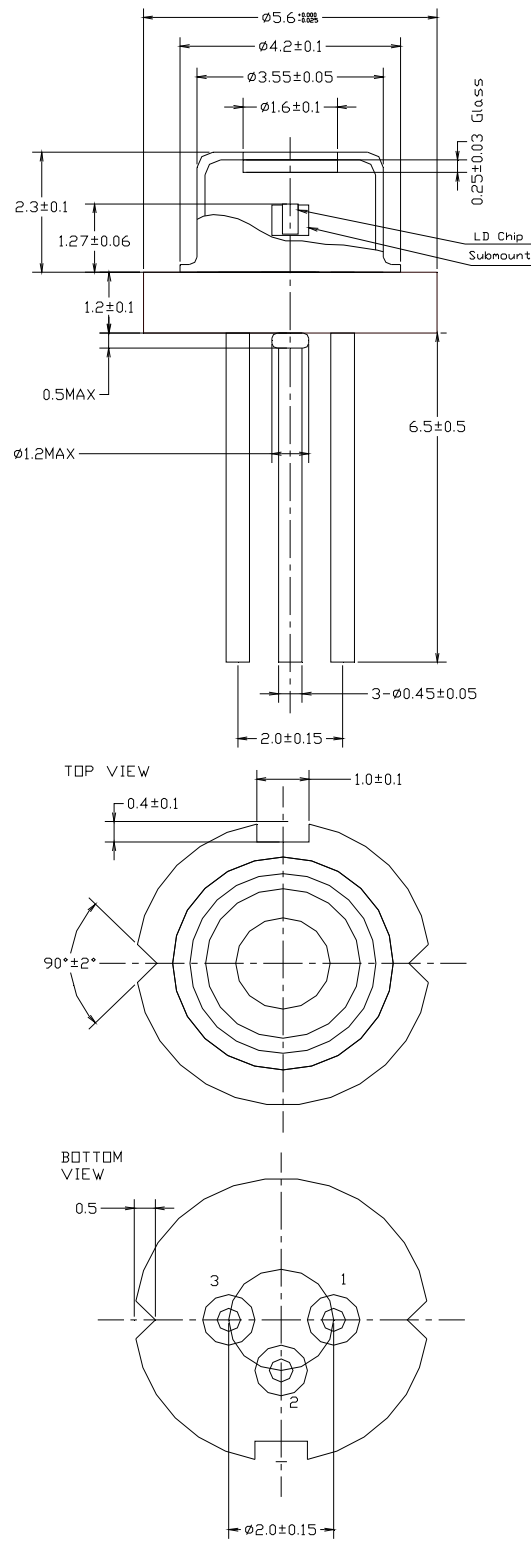
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	10	-	mW	-
Threshold Current	Ith	-	15	40	mA	-
Operating Current	Iop	-	25	50	mA	Po=10mW
Differential efficiency	$\eta$	0.50	0.80	1.20	mW/mA	Po=10mW
Operating Voltage	Vop	1.5	1.8	2.4	V	Po=10mW
Lasing Wavelength	$\lambda_p$	775	780	800	nm	Po=10mW
Beam Divergence	$\theta_{  }$	9	11	13	deg	Po=10mW
	$\theta_{\perp}$	14	16	18	deg	Po=10mW
Beam Angle	$\Delta\theta_{  }$	-	-	$\pm 2.0$	deg	Po=10mW
	$\Delta\theta_{\perp}$	-	-	$\pm 3.0$	deg	Po=10mW
Monitor Current	I <sub>m</sub>	0.0	0.25	1.0	mA	Po=10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	$\pm 60$	$\mu\text{m}$	Po=10mW

**NOTICE : QL78F8SA to be operated on APC circuit.**

The above product specifications are subject to change without notice.



# ◆ PACKAGE DIMENSION



# ◆PACKING

