

QSI LASER DIODE
SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL78D6S-A/B/C

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL78D6S-A/B/C

AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd

Ver.1 MAR 2011

◆ OVERVIEW

QL78D6S-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 5mW for industrial optical module and sensor applications.

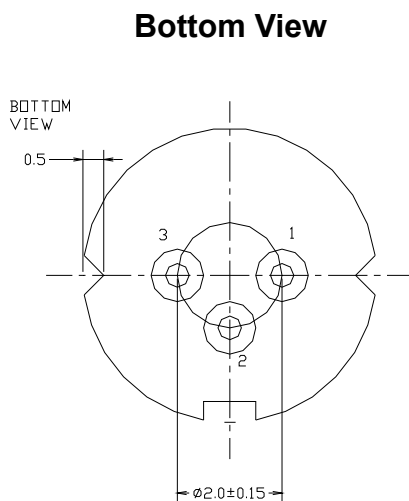
◆ APPLICATION

- CD-P

◆ FEATURES

- Lasing Wavelength : $\lambda_p = 780\text{nm}$
- Optical Power Output : 5mW CW
- Package Type : TO-18 (5.6mm Φ)
- Built-in Photo Diode for Monitoring Laser Output

◆ ELECTRICAL CONNECTION



Pin Configuration

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

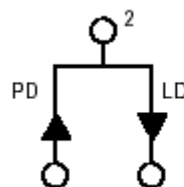


Fig. 1

QL78D6SA

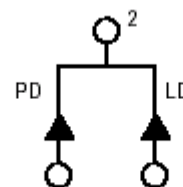


Fig. 2

QL78D6SB

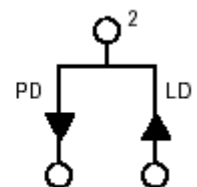


Fig. 3

QL78D6SC

◆ ABSOLUTE MAXIMUM RATING

Items	Symbols	Values	Unit
Optical Output Power	P	7	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 ~ +80	°C

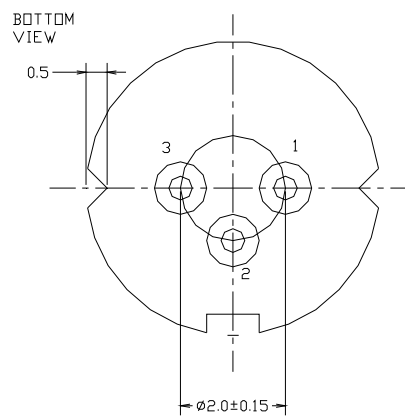
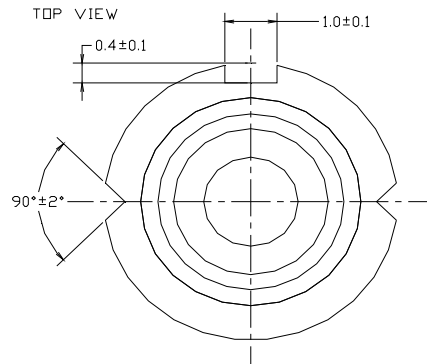
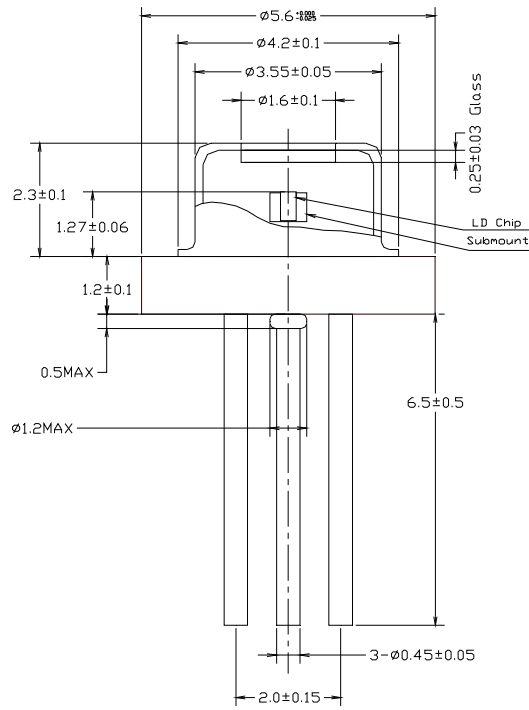
◆ ELECTRICAL and OPTICAL CHARACTERISTICS

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	Po	-	5	-	mW	-
Threshold Current	Ith	-	13	30	mA	-
Operating Current	Iop	-	26	40	mA	Po=5mW
Operating Voltage	Vop	-	1.9	2.3	V	Po=5mW
Slope Efficiency	SE	0.3	0.4	0.7	mW/mA	Po=3 ~ 5mW
Lasing Wavelength	λ_p	770	782	800	nm	Po=5mW
Beam Divergence	θ_{\parallel}	8	9	15	deg	Po=5mW
	θ_{\perp}	25	28	40	deg	Po=5mW
Beam Angle	$\Delta \theta_{\parallel}$	-	-	± 1.5	deg	Po=5mW
	$\Delta \theta_{\perp}$	-	-	± 2.5	deg	Po=5mW
Monitor Current	Im	0.1	0.3	0.6	mA	Po=5mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	± 60	μm	Po=5mW
Astigmatism	As	-	-	15	μm	Po=5mW

NOTICE : QL78D6S-A/B/C to be operated on APC

The above product specifications are subject to change without notice.

◆ PACKAGE DIMENSION



◆ PACKING

