

QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL78J6S-A/B/C

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL78J6S-A/B/C

AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 0 2004

◆ OVERVIEW

QL78J6S-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 50mW for industrial optical module and sensor application

◆ APPLICATION

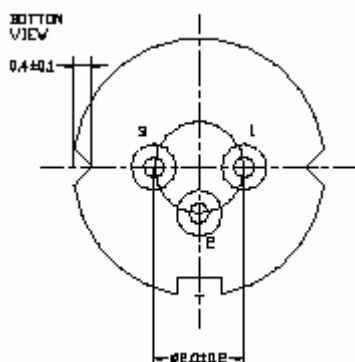
- Sensor
- Industrial optical module

◆ FEATURES

- Visible Light Output : $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 50mW CW
- Package Type : TO-18 (5.6mm ϕ)
- 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)

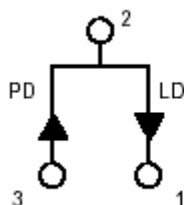


Fig. 1

QL78J6SA

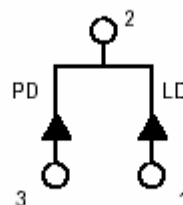


Fig. 2

QL78J6SB

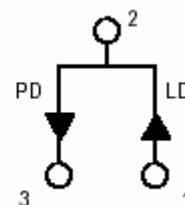


Fig. 3

QL78J6SC

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

Items	Symbols	Values	Unit
Optical Output Power	P	50	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**

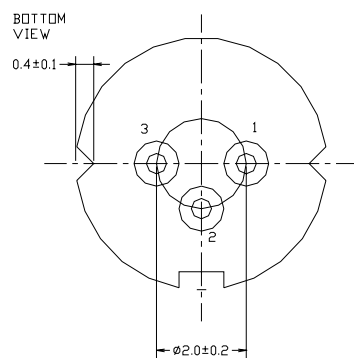
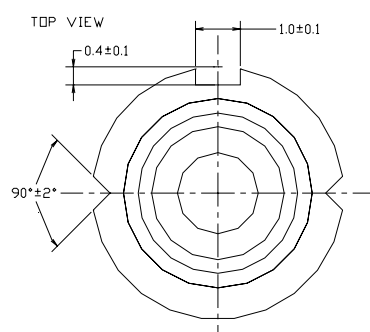
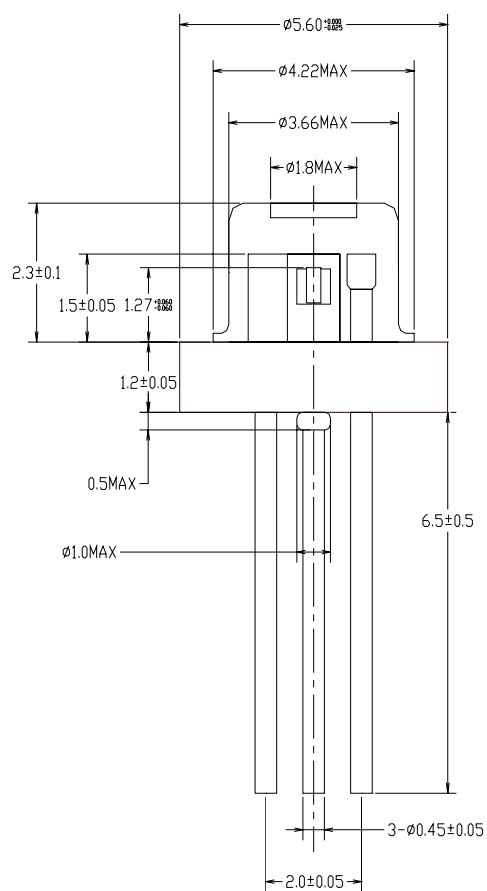
Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	50	-	mW	-
Threshold Current	Ith	-	25	40	mA	-
Operating Current	Iop	-	75	100	mA	Po=50mW
Differential efficiency	η	0.6	1.0	1.4	mW/mA	40mW/ I(45mW)-I(5mW)
Operating Voltage	Vop	-	2	2.8	V	Po=50mW
Lasing Wavelength	λ_p	775	785	795	nm	Po=50mW
Beam Divergence	$\theta_{ }$	7	9	12	deg	Po=50mW
	$\theta_{\perp}$	17	22	27	deg	Po=50mW
Beam Angle	$\Delta\theta_{ }$	-	-	± 2.0	deg	
	$\Delta\theta_{\perp}$	-	-	± 3.0	deg	
Monitor Current	Im	0.1	0.25	0.6	mA	Po=50mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	± 60	μm	
Astigmatism	As	-	5	-	μm	Po=50mW

NOTICE : QL78J6S-A/B/C to be operated on APC

The above product specifications are subject to change without notice.



◆ PACKAGE DIMENSION



◆PACKING

