



## QL78D6S-A/B/C

AlGaAs Laser Diode

Ver.0 JAN 2004

### ◆ 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.

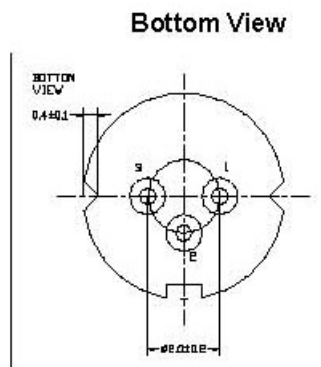
### ◆ APPLICATION

- CD-P

### ◆ FEATURES

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

### ◆ ELECTRICAL CONNECTION



Pin Configuration

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

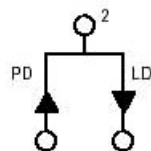


Fig. 1  
QL78D6SA

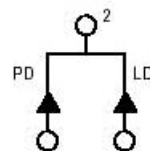


Fig. 2  
QL78D6SB

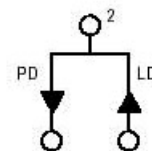


Fig. 3  
QL78D6SC



## ◆ ABSOLUTE MAXIMUM RATING

Items	Symbols	Values	Unit
Optical Output Power	P	6	mW
Laser Diode Reverse Voltage	V	2	V
Photo Diode Reverse Voltage	V	30	V
Operating Temperature	T <sub>opr</sub>	-10 ~ +60	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +80	°C

## ◆ ELECTRICAL and OPTICAL CHARACTERISTICS

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	P <sub>o</sub>	-	5	-	mW	-
Threshold Current	I <sub>th</sub>	-	20	30	mA	-
Operating Current	I <sub>op</sub>	-	30	40	mA	P <sub>o</sub> =5mW
Operating Voltage	V <sub>op</sub>	-	1.9	2.3	V	P <sub>o</sub> =5mW
Slope Efficiency	SE	0.3	0.5	0.7	mW/mA	P <sub>o</sub> =3 ~ 5mW
Lasing Wavelength	λ <sub>p</sub>	770	785	800	nm	P <sub>o</sub> =5mW
Beam Divergence	θ <sub>∥</sub>	8	11	15	deg	P <sub>o</sub> =5mW
	θ <sub>⊥</sub>	25	34	40	deg	P <sub>o</sub> =5mW
Beam Angle	Δθ <sub>∥</sub>	-	-	±1.5	deg	P <sub>o</sub> =5mW
	Δθ <sub>⊥</sub>	-	-	±2.5	deg	P <sub>o</sub> =5mW
Monitor Current	I <sub>m</sub>	0.1	0.3	0.6	mA	P <sub>o</sub> =5mW
Optical Distance	ΔX, ΔY, ΔZ	-	-	±60	μm	P <sub>o</sub> =5mW
Astigmatism	A <sub>s</sub>	-	-	15	μm	P <sub>o</sub> =5mW

**NOTICE : QL 78D6S-A/B/C to be operated on APC**

**The above product specifications are subject to change without notice.**



## ◆ PACKAGE DIMENSION

