



QL78F6S-A/B/C

AlGaAs Laser Diode

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

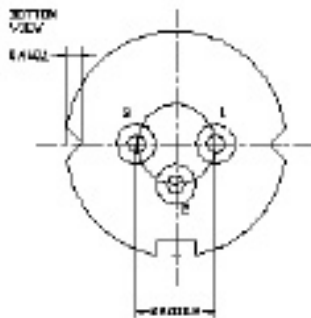
- Sensor
- Industrial optical module

◆ FEATURES

- Visible Light Output : $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 10mW CW
- Package Type : TO-18 (5.6mm ϕ)
- 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)

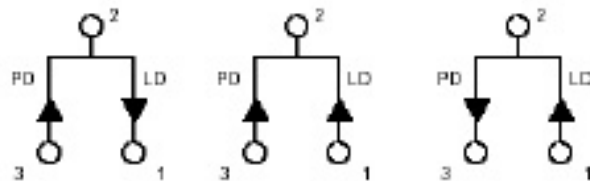


Fig. 1
QL78F6SA

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	P _o	-	10	-	mW	-
Threshold Current	I _{th}	8	12	18	mA	-
Operating Current	I _{op}	-	22	40	mA	P _o =10mW
Differential efficiency	η	0.55	0.75	0.95	mW/mA	$\frac{5mW}{I(10mW)-I(5mW)}$
Operating Voltage	V _{op}	1.5	1.8	2.4	V	P _o =10mW
Lasing Wavelength	λ_p	775	788	800	nm	P _o =10mW
Beam Divergence	$\theta_{ }$	6	8	11	deg	P _o =10mW
	θ_{\perp}	25	31	35	deg	P _o =10mW
Beam Angle	$\Delta\theta_{ }$	-	-	±2.0	deg	P _o =10mW
	$\Delta\theta_{\perp}$	-	-	±3.0	deg	P _o =10mW
Monitor Current	I _m	0.5	0.7	1.5	mA	P _o =10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	P _o =10mW
Astigmatism	Δs	-	-	10	μm	P _o =10mW

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

The above product specifications are subject to change without notice.



◆ PACKAGE DIMENSION

