

# LD78F6S-A/B/C

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

2007-6-28

### ◆ OVERVIEW

**LD78F6S-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

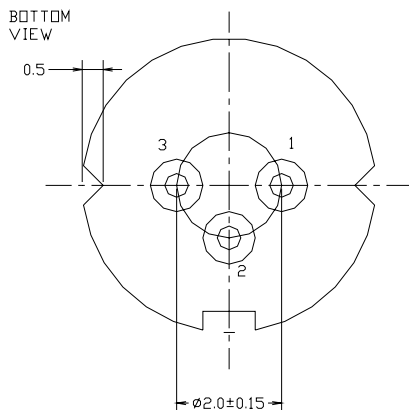
- Industrial optical module
- Laser Beam Printer

### ◆ 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)

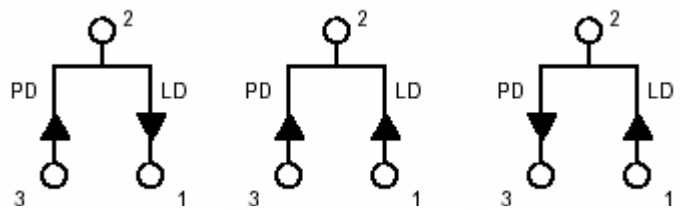


Fig. 1

LD78F6SA

Fig. 2

LD78F6SB

Fig. 3

LD78F6SC

◆ 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

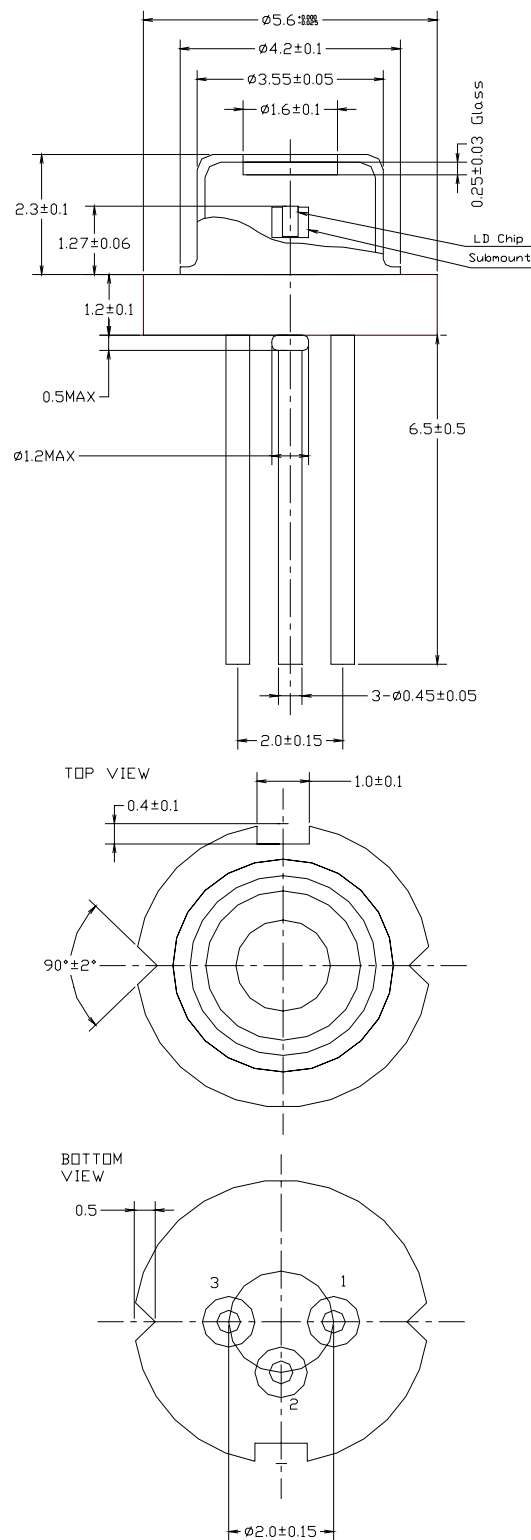
◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	10	-	mW	-
Threshold Current	Ith	8	12	18	mA	-
Operating Current	Iop	-	22	40	mA	Po=10mW
Differential efficiency		0.55	0.75	0.95	mW/mA	$\frac{5mW}{I(10mW)-I(5mW)}$
Operating Voltage	Vop	1.5	1.8	2.4	V	Po=10mW
Lasing Wavelength	$\lambda_p$	775	788	800	nm	Po=10mW
Beam Divergence	$\theta_{  }$	6	8	12	deg	Po=10mW
	$\theta_{\perp}$	25	31	35	deg	Po=10mW
Beam Angle	$\Delta\theta_{  }$	-	-	±2.0	deg	Po=10mW
	$\Delta\theta_{\perp}$	-	-	±3.0	deg	Po=10mW
Monitor Current	I <sub>m</sub>	0.5	1.0	1.5	mA	Po=10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	Po=10mW
Astigmatism	As			10	μm	Po=10mW

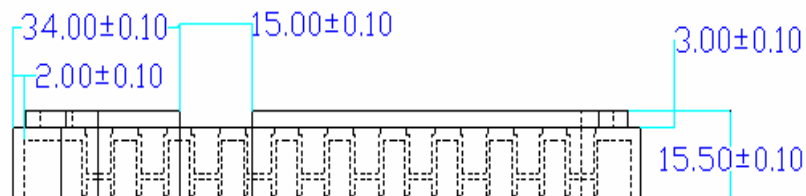
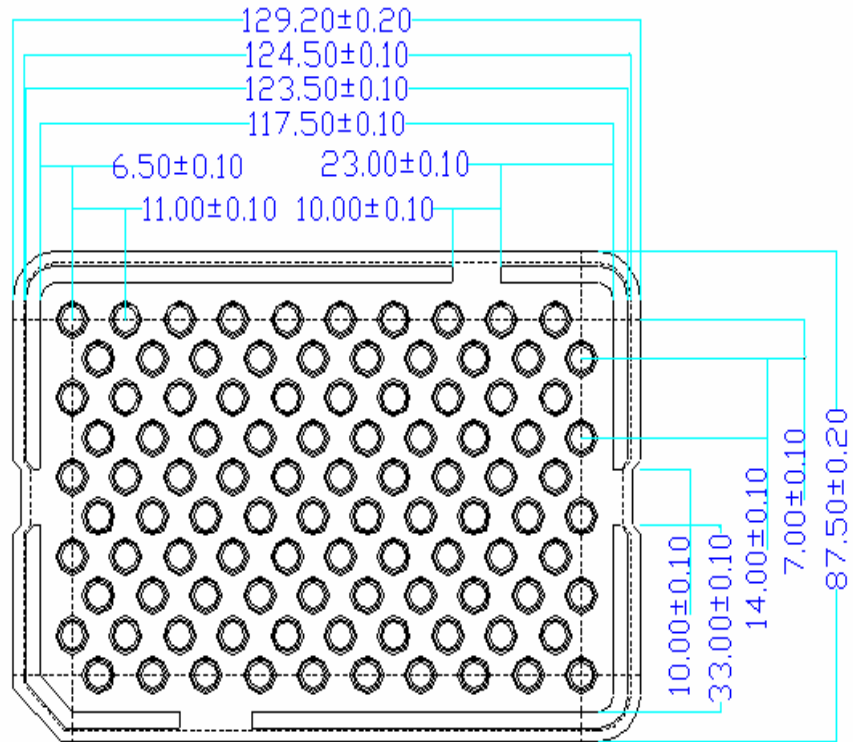
**NOTICE : LD78F6S-A/B/C to be operated on APC**

The above product specifications are subject to change without notice.

## ◆ PACKAGE DIMENSION



◆ PACKING



**International Sales**

**First Sensor AG**  
 Peter-Behrens-Str. 15  
 12459 Berlin  
 Germany  
 T +49 30 6399 2399  
 F +49 30 6399 23-752  
 sales.opto@first-sensor.com  
 www.first-sensor.com

**US Sales**

**First Sensor Inc.**  
 5700 Corsa Avenue #105  
 Westlake Village, CA 91362  
 USA  
 T +1 818 7063 400  
 F +1 818 8897 053  
 sales.us@first-sensor.com  
 www.first-sensor.com

