

# QSI LASER DIODE

## SPECIFICATIONS FOR APPROVAL

**Tentative**

**Customer : Samsung**

**Model : QL78F6PA**

**Signature of Approval**

**Approved by** \_\_\_\_\_

**Checked by** \_\_\_\_\_

**Issued by** \_\_\_\_\_

**Approval by Customer**

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# QL78F6PA

## AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.0 Aug.2011

### ◆ OVERVIEW

**QL78F6PA** 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 : Lead Frame
- Built-in Photo Diode for Monitoring Laser Diode

### ◆ ELECTRICAL CONNECTION

#### Pin Configuration

A type	LD cathode, PD anode
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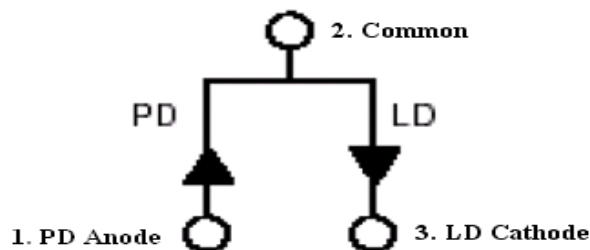


Fig. 1 QL78F6PA

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Item	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

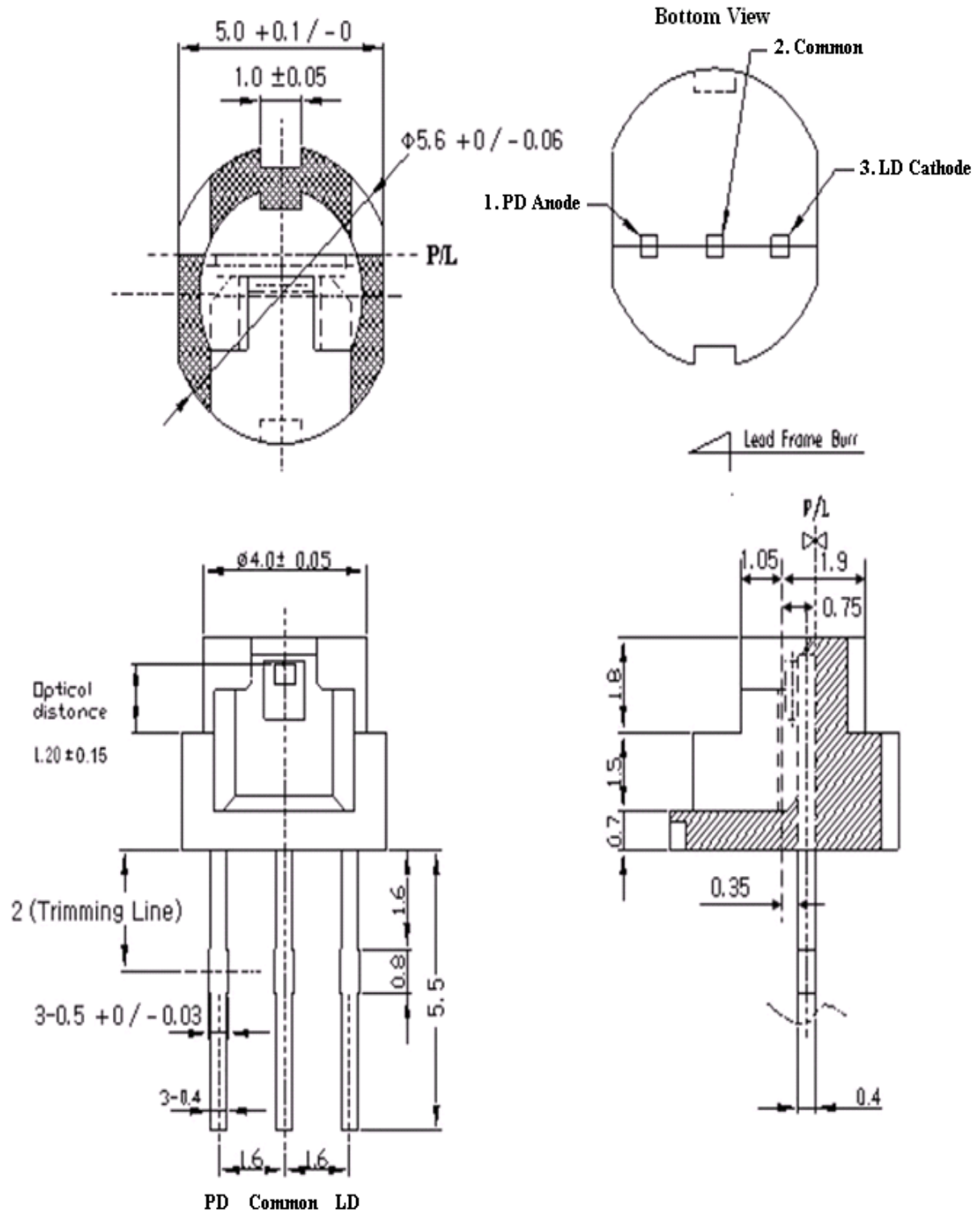
◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

Items	Symbols	Min.	Typ.	Max	Unit	Condition
Optical Output Power	Po	-	10	-	mW	-
Threshold Current	Ith	8	12	18	mA	-
Operating Current	Iop	-	26	40	mA	Po=10mW
Differential efficiency	$\eta$	0.4	0.6	0.8	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	9	12	deg	Po=10mW
	$\theta_{\perp}$	25	31	35	deg	Po=10mW
Beam Angle	$\Delta\theta_{  }$	-	-	$\pm 2.0$	deg	Po=10mW
	$\Delta\theta_{\perp}$	-	-	$\pm 3.0$	deg	Po=10mW
Monitor Current	Im	0.4	0.6	1.0	mA	Po=10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	$\pm 60$	$\mu m$	Po=10mW
Astigmatism	As			10	$\mu m$	Po=10mW

**NOTICE : QL78F6PA to be operated on APC circuit.**

The above product specifications are subject to change without notice.

## ◆ PACKAGE DIMENSION



◆ PACKING

