

# **QSI LASER DIODE SPECIFICATIONS FOR APPROVAL**

**Customer :**

**Model : QL65F6S-A/B/C**

**Signature of Approval**

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

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

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

**Approval by Customer**

\_\_\_\_\_



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***WWW.QSILaser.com***

# QL65F6S-A/B/C

## InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 0 JAN. 2004

### ◆OVERVIEW

QL65F6S-A/B/C is a MOCVD grown 650nm band *InGaAlP* laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 10mW and low operating current for optoelectronic devices such as Optical Pick-up & Bar Code Reader.

### ◆APPLICATION

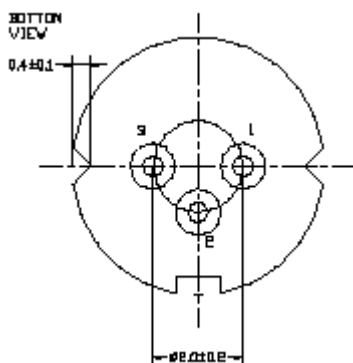
- Optical Pick-up
- Bar Code Reader
- Laser Module

### ◆FEATURES

- Visible Light Output :  $\lambda_p = 650 \text{ nm}$
- 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 cathode, PD anode (Fig. 1)
B	LD , PD anode (Fig. 2)
C	LD anode, PD cathode (Fig. 3)

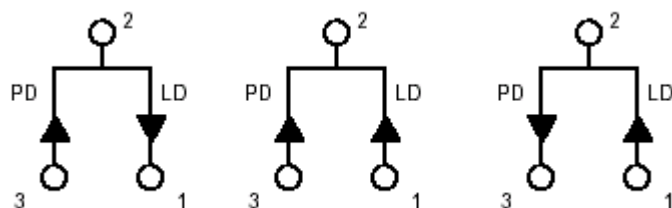


Fig. 1

QL65F6SA

Fig. 2

QL65F6SB

Fig. 3

QL65F6SC

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

Items	Symbols	Values	Unit
Optical Output Power	P	10	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

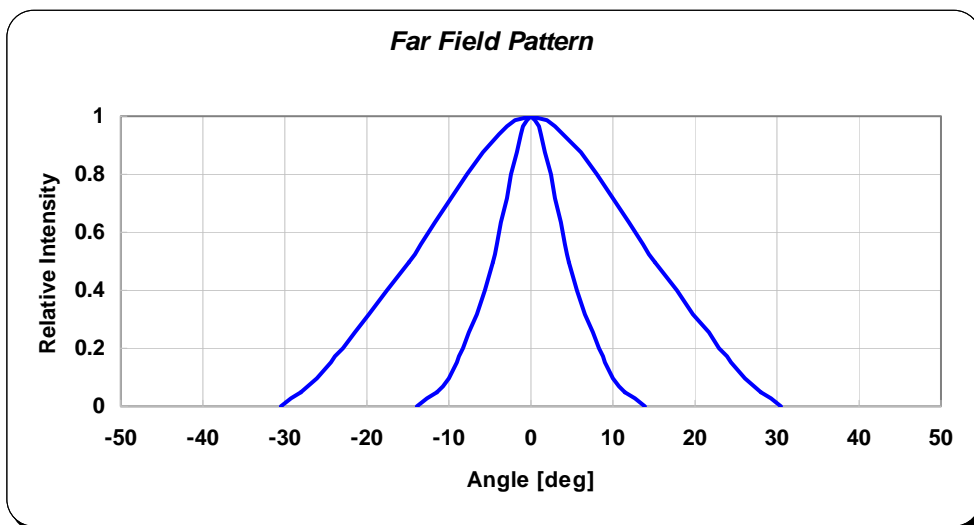
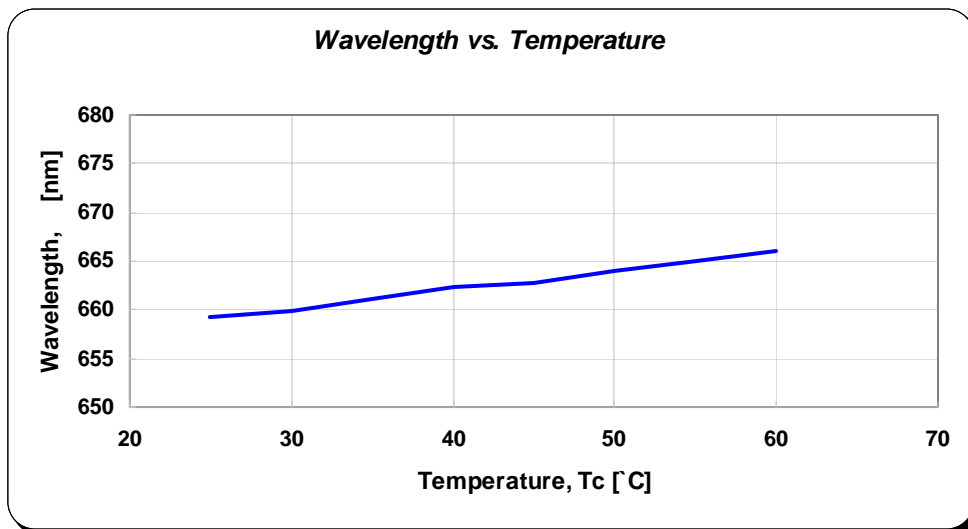
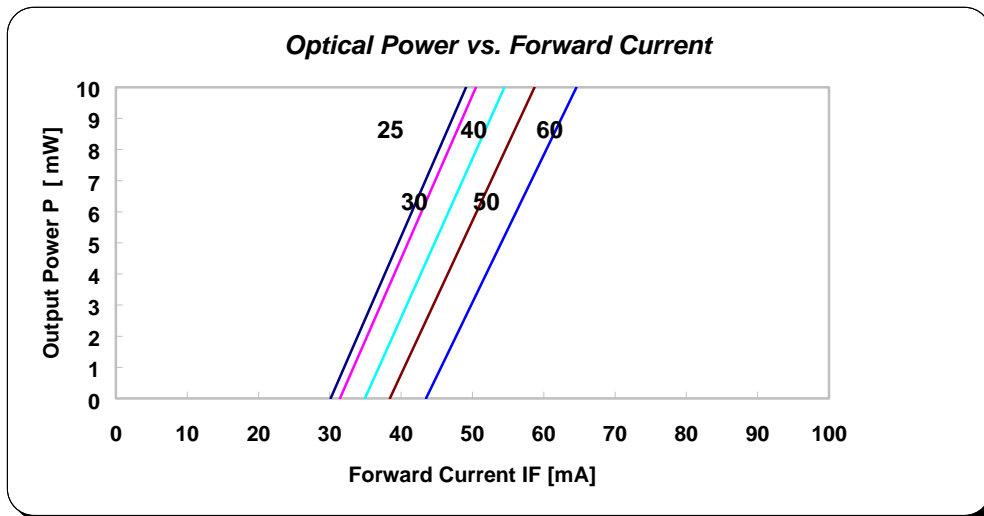
◆ **ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C**

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	P <sub>o</sub>	-	10	-	mW	-
Threshold Current	I <sub>th</sub>	-	40	50	mA	-
Operating Current	I <sub>op</sub>	-	60	80	mA	P <sub>o</sub> =10mW
Operating Voltage	V <sub>op</sub>	-	2.3	2.6	V	P <sub>o</sub> =10mW
Lasing Wavelength	λ <sub>p</sub>	645	655	660	nm	P <sub>o</sub> =10mW
Beam Divergence	θ <sub>  </sub>	6	9	12	deg	P <sub>o</sub> =10mW
	θ <sub>⊥</sub>	24	28	35	deg	P <sub>o</sub> =10mW
Beam Angle	Δθ <sub>  </sub>	-	-	±1.5	deg	P <sub>o</sub> =10mW
	Δθ <sub>⊥</sub>	-	-	±2.5	deg	P <sub>o</sub> =10mW
Monitor Current	I <sub>m</sub>	0.1	0.2	0.5	mA	P <sub>o</sub> =10mW
Optical Distance	ΔX, ΔY, ΔZ	-	-	±60	μm	

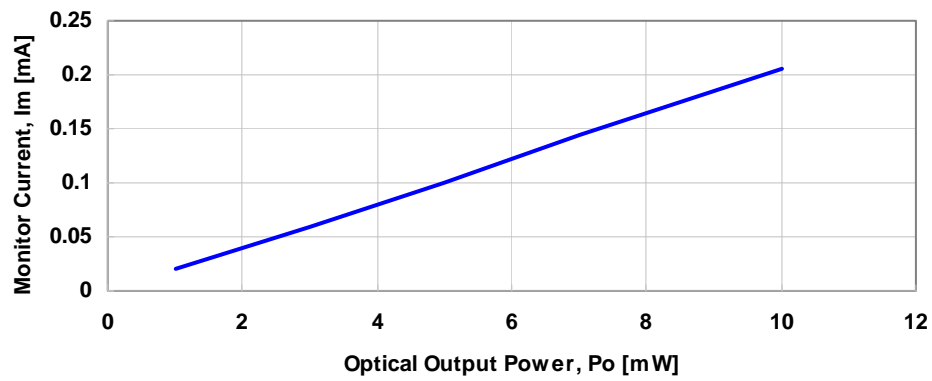
**NOTICE : QL65F6S-A/B/C to be operated on APC**

The above product specifications are subject to change without notice.

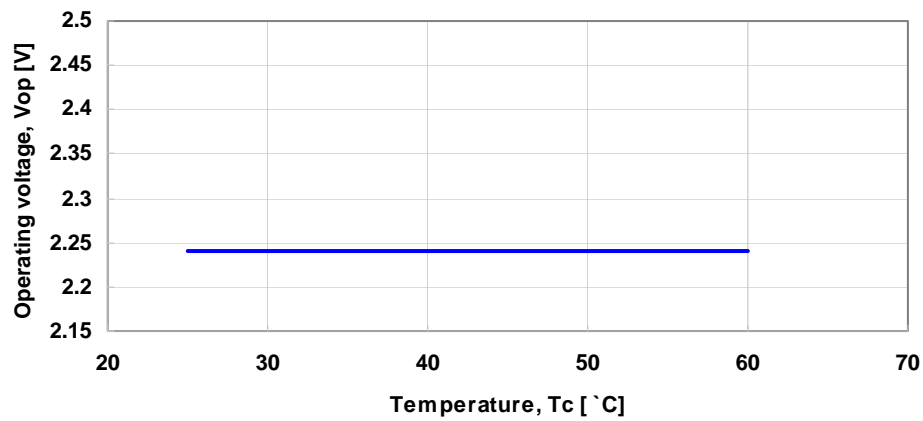
## ◆ EXAMPLE of REPRESENTATIVE CHARACTERISTICS



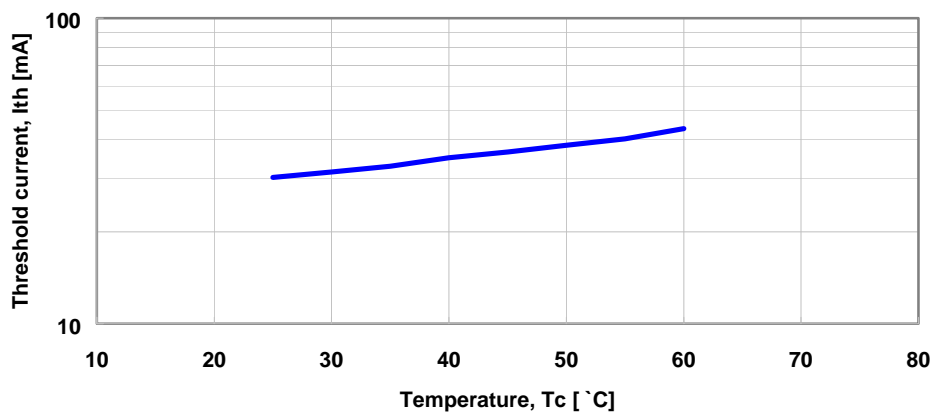
**Monitor Current vs. Optical Output Power**



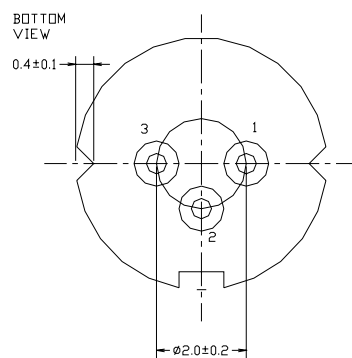
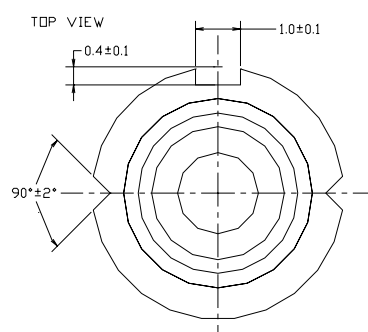
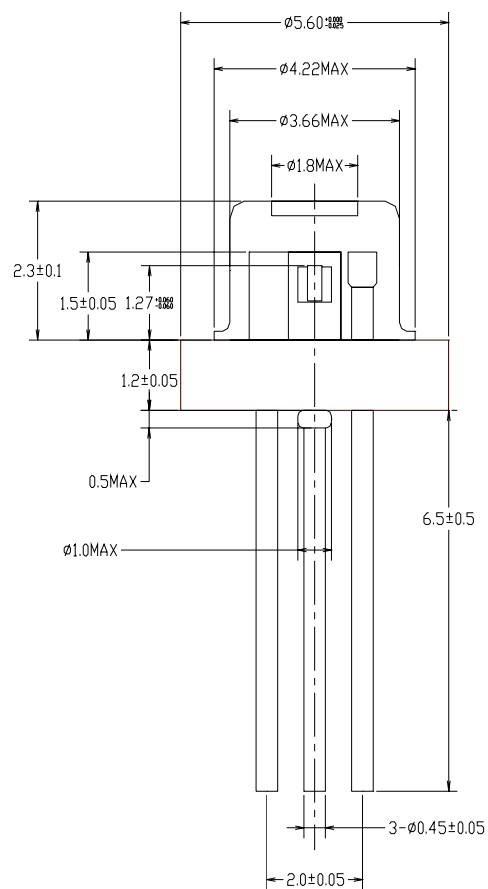
**Operating Voltage vs. Temperature**



**Threshold Current vs. Temperature**



## ◆ PACKAGE DIMENSION



## ◆PACKING

