

QSI LASER DIODE

SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL63F5S-A/B/C

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL63F5S-A/B/C

InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 04 2008

◆ OVERVIEW

QL63G5S-A/B/C is a MOCVD grown 635nm band *InGaAlP* laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 10mW for optoelectronic devices such as Optical Leveler and Modules.

◆ APPLICATION

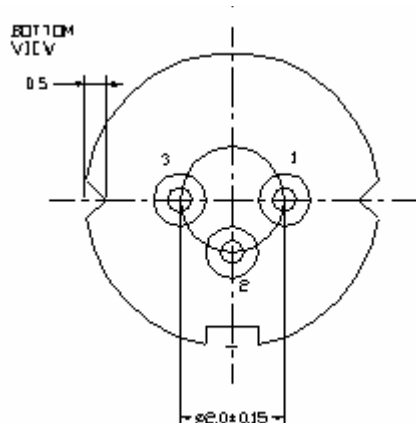
- Laser Pointer
- Bar Code Scanner
- Laser Module

◆ FEATURES

- Visible Light Output : $\lambda_p = 635 \text{ nm}$
- 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 cathode, PD anode (Fig. 1)
B	LD , PD anode (Fig. 2)
C	LD anode, PD cathode (Fig. 3)

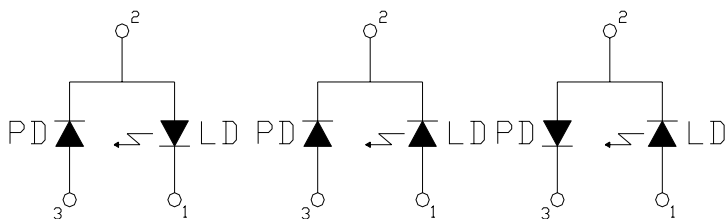


Fig. 1

QL63F5SA

Fig. 2

QL63F5SB

Fig. 3

QL63F5SC

◆ **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 ~ +50	°C
Storage Temperature	Tstg	-40 ~ +85	°C

◆ **ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C ¹⁾²⁾**

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	P _o	-	10	-	mW	-
Threshold Current	I _{th}	-	35	47	mA	-
Operating Current	I _{op}	-	45	55	mA	P _o =15mW
Operating Voltage	V _{op}	-	2.2	2.5	V	P _o =15mW
Lasing Wavelength	λ _p	-	637	645	nm	P _o =15mW
Beam Divergence ³⁾	θ	6	8	12	deg	P _o =15mW
	θ _⊥	28	34	40	deg	P _o =15mW
Beam Angle	Δθ	-	-	±1.5	deg	P _o =15mW
	Δθ _⊥	-	-	±2.5	deg	P _o =15mW
Monitor Current	I _m	0.05	0.15	0.3	mA	P _o =15mW
Optical Distance	ΔX, ΔY, ΔZ	-	-	±60	μm	-

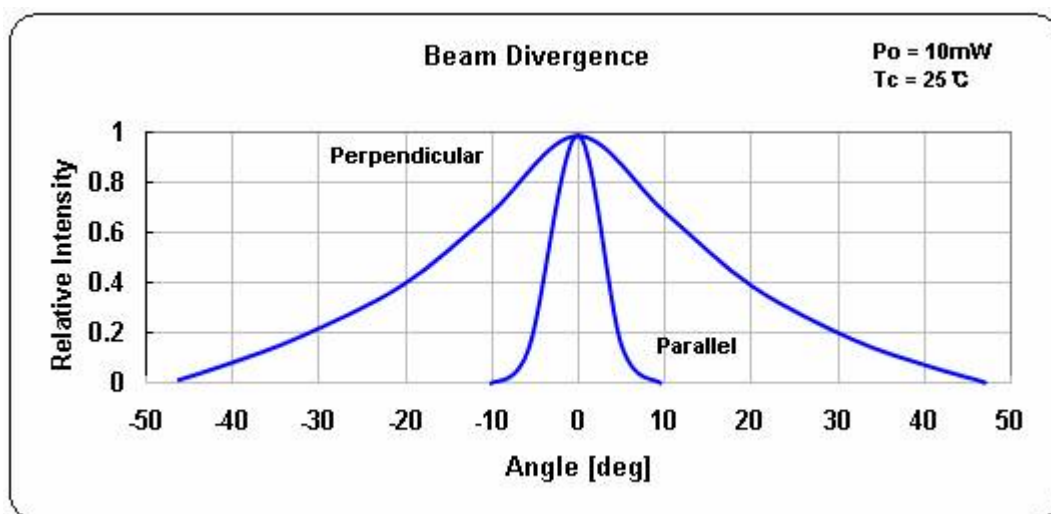
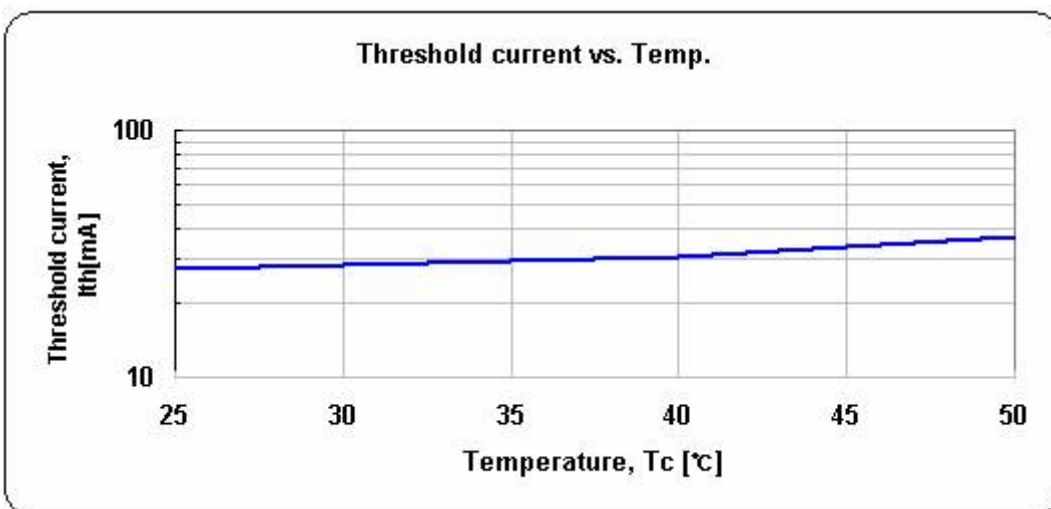
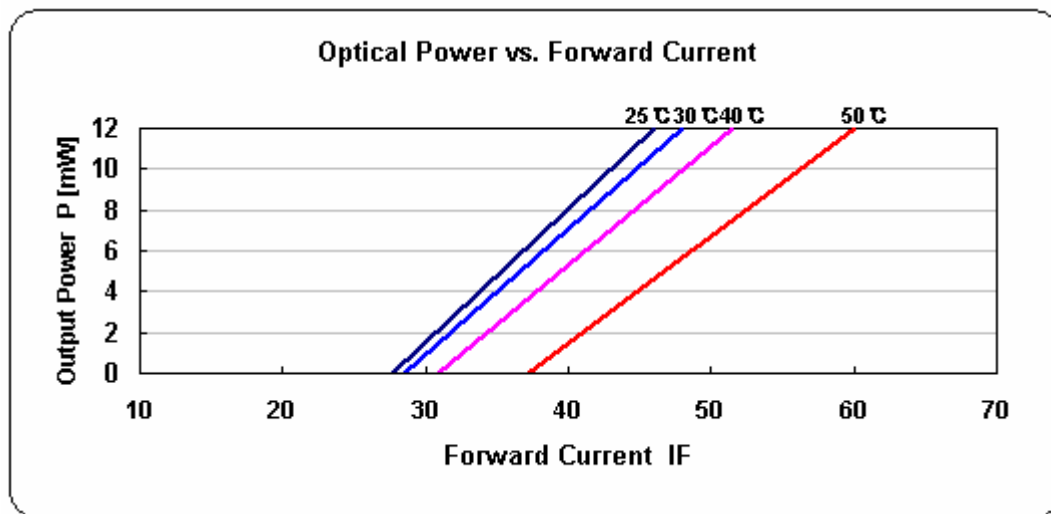
1) Initial values 2) All above values are evaluated with QSI's measuring apparatus

3) Full angle at half maximum

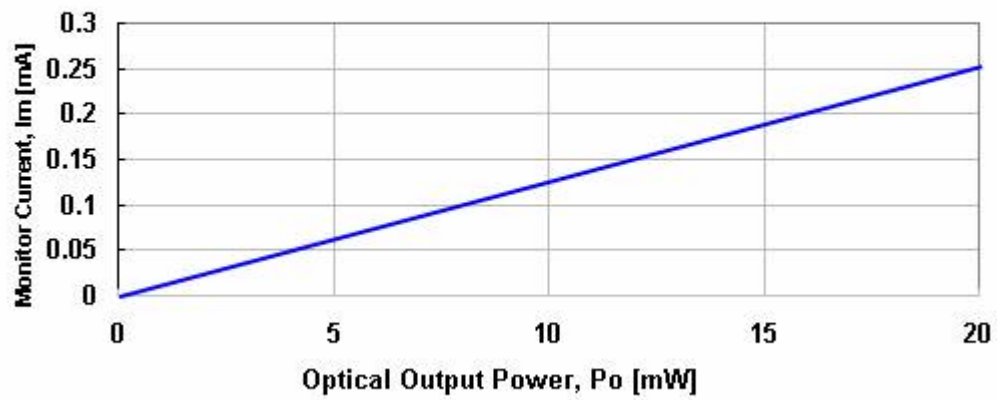
NOTICE : QL63F5S-A/B/C to be operated on APC

The above product specifications are subject to change without notice.

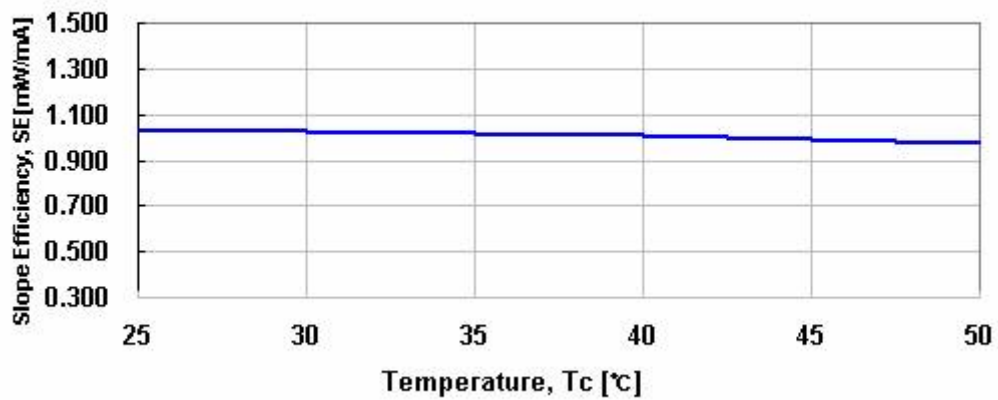
◆EXAMPLE of REPRESENTATIVE CHARACTERISTICS



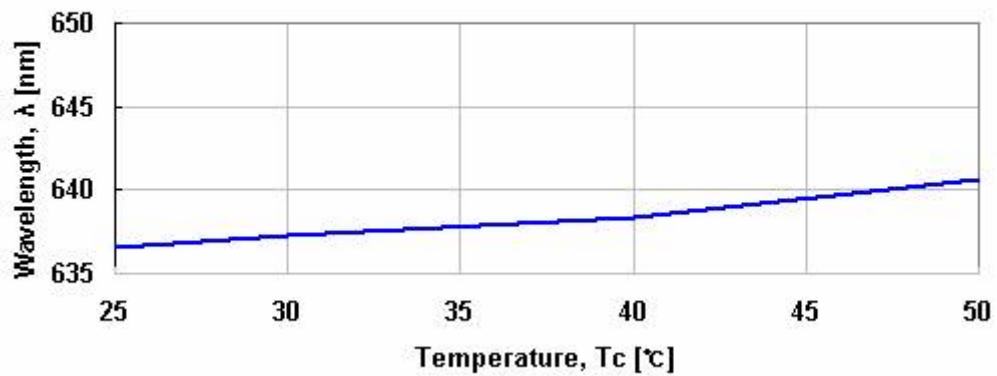
Monitor Current vs. Optical Output Power



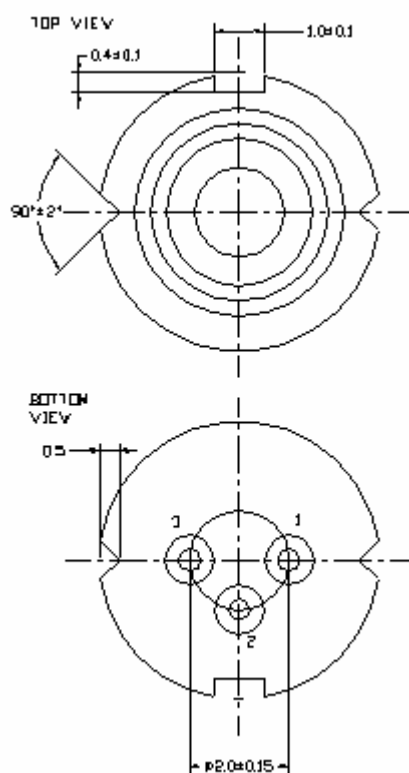
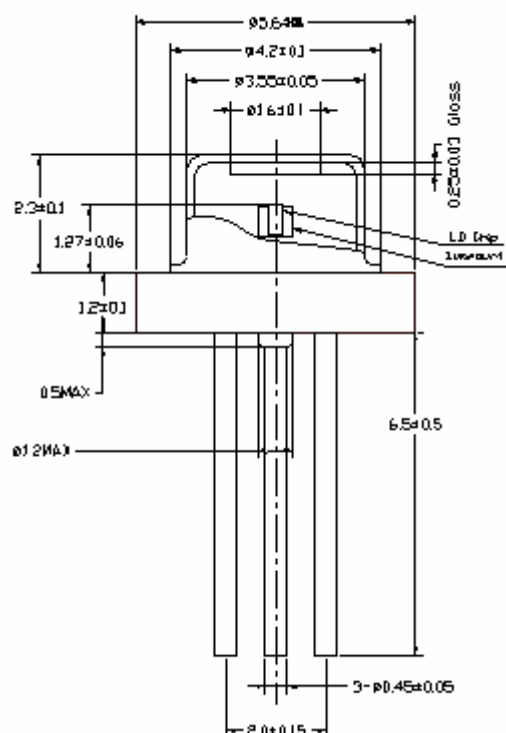
Slope Efficiency vs. Temp.



Wavelength vs. Temp



◆ PACKAGE DIMENSION



◆PACKING

