

QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL63F5S-A/B/C-L

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL63F5S-A/B/C-L

InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 02 2008

◆ OVERVIEW

QL63F5S-A/B/C-L 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

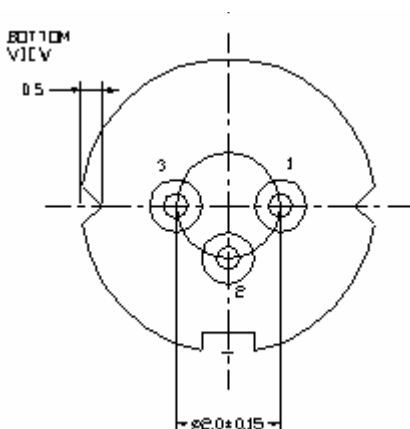
- Laser Pointer
- Bar Code Scanner
- Laser Module

◆ FEATURES

- Visible Light Output : $\lambda_p = 635 \text{ nm}$
- Low Threshold Current & Operating Current
- Optical Power Output : 10mW CW
- Package Type : TO-18 (5.6mm ϕ)
- Built-in Photo Diode for Monitoring Laser Diode

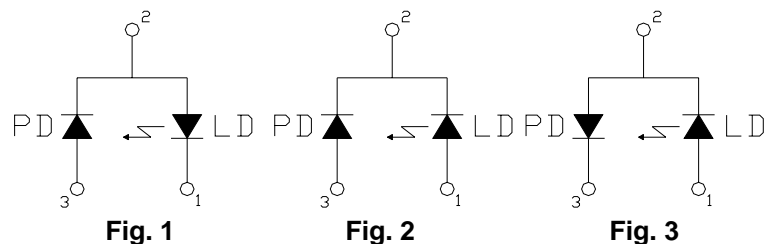
◆ ELECTRICAL CONNECTION

Bottom View



Pin Configuration

A	LD cathode, PD anode (Fig. 1)
B	LD , PD anode (Fig. 2)
C	LD anode, PD cathode (Fig. 3)



QL63F5SA-L

QL63F5SB-L

QL63F5SC-L

◆ 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	Po	-	10	-	mW	-
Threshold Current	Ith	-	25	40	mA	-
Operating Current	Iop	-	38	48	mA	Po=10mW
Operating Voltage	Vop	-	2.2	2.5	V	Po=10mW
Lasing Wavelength	λ_p	-	637	645	nm	Po=10mW
Beam Divergence ³⁾	$\theta_{ }$	6	8	12	deg	Po=10mW
	θ_{\perp}	28	34	40	deg	Po=10mW
Beam Angle	$\Delta\theta_{ }$	-	-	±1.5	deg	Po=10mW
	$\Delta\theta_{\perp}$	-	-	±2.5	deg	Po=10mW
Monitor Current	Im	0.05	0.15	0.3	mA	Po=10mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	-

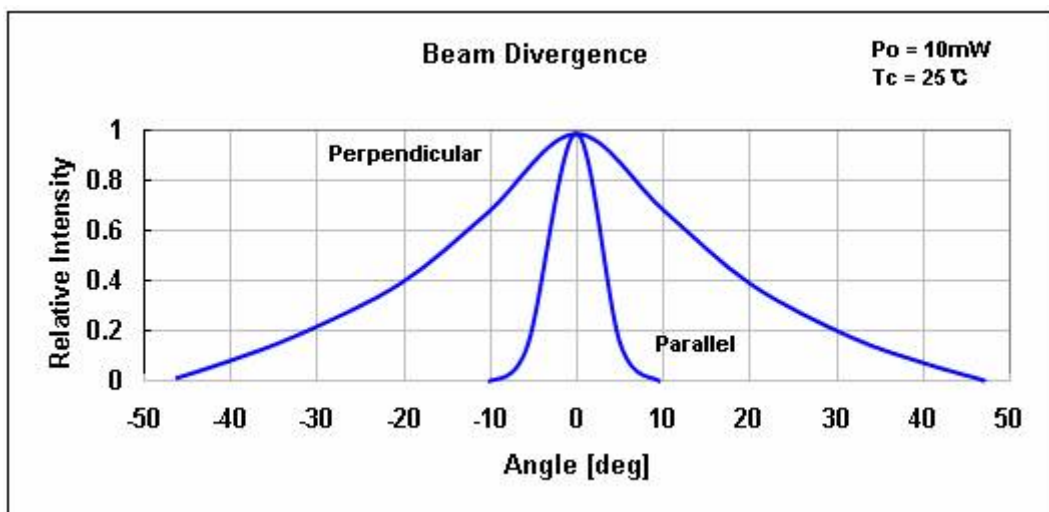
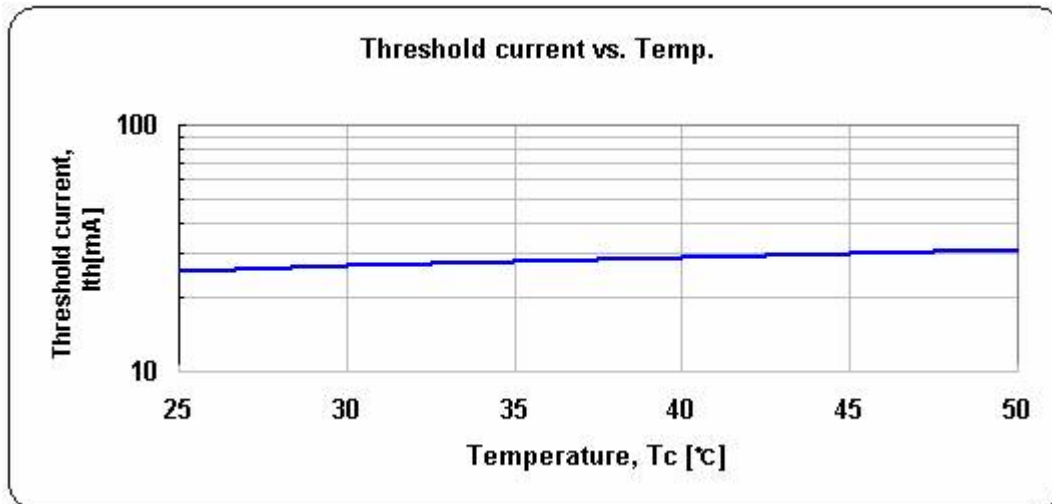
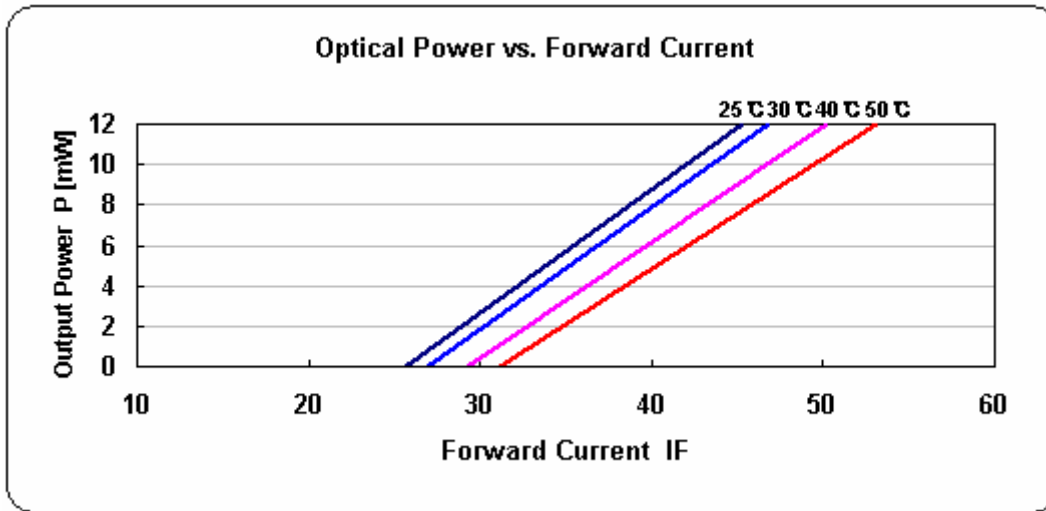
1) Initial values 2) All above values are evaluated with QSI's measuring apparatus

3) Full angle at half maximum

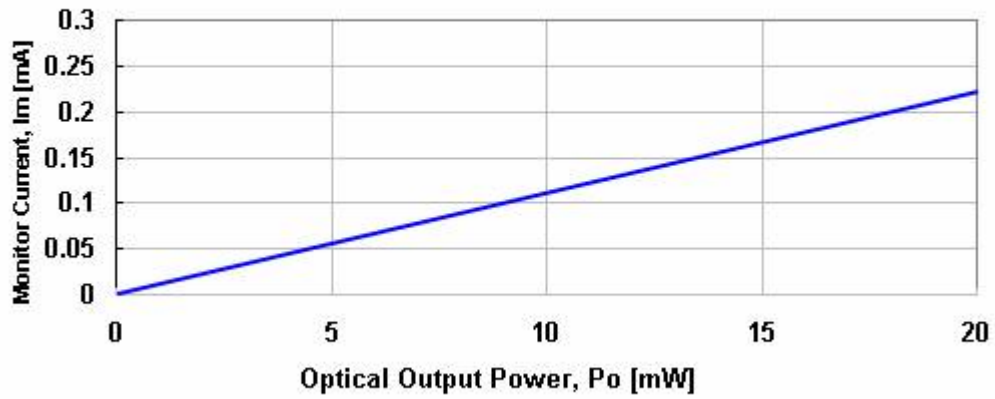
NOTICE : QL63F5S-A/B/C-L to be operated on APC

The above product specifications are subject to change without notice.

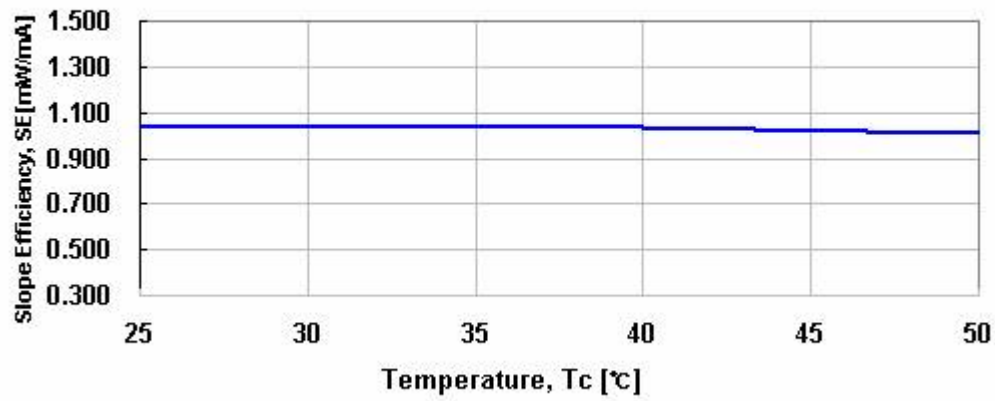
◆ EXAMPLE of REPRESENTATIVE CHARACTERISTICS



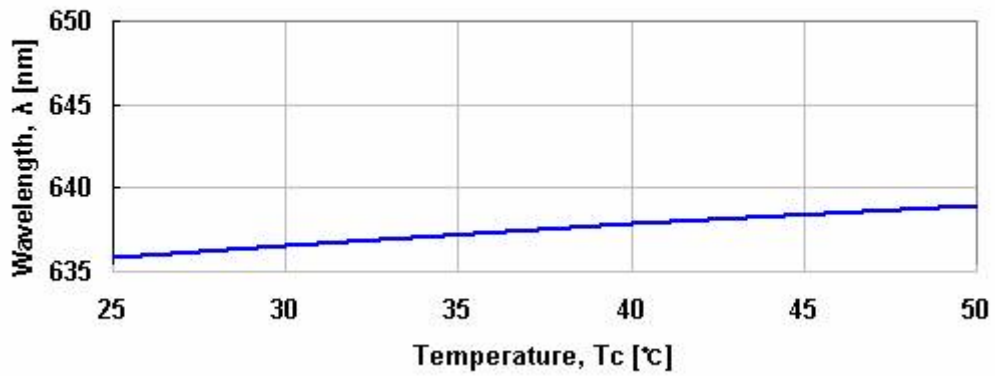
Monitor Current vs. Optical Output Power



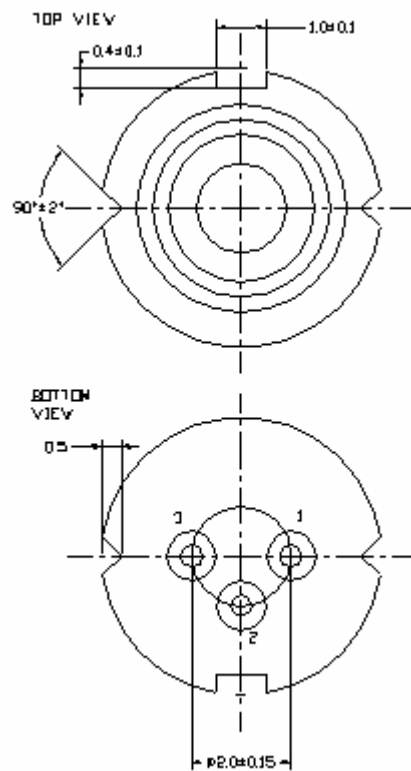
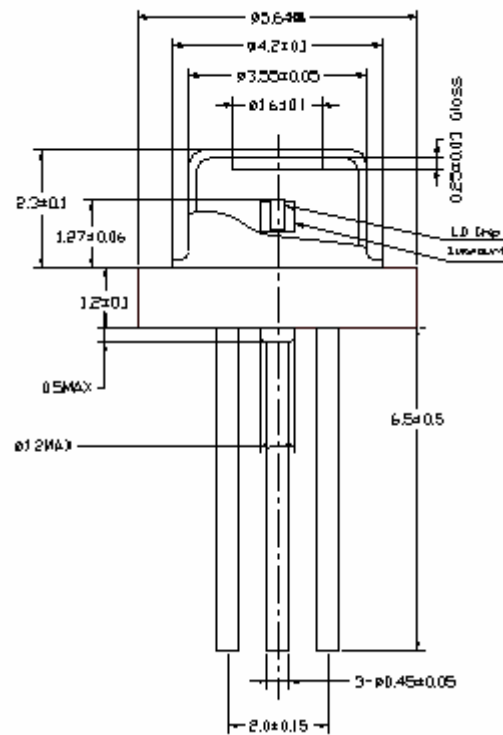
Slope Efficiency vs. Temp.



Wavelength vs. Temp



◆ PACKAGE DIMENSION



◆PACKING

