

# QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :.

Model : QL65D5S-A/B/C-N

## Signature of Approval

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

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

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

## Approval by Customer

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QSI Co., Ltd.

315-9, Cheonheung-ri, Sungger-eup,  
Cheonan-city, Chungnam, Korea 330-836

[WWW.QSILaser.com](http://WWW.QSILaser.com)

# QL65D5S-A/B/C-N

## InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 4 MAR. 2011

### ◆ OVERVIEW

QL65D5S-A/B/C-N 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 5mW for optoelectronic devices such as Laser Pointer & Bar Code Reader.

### ◆ APPLICATION

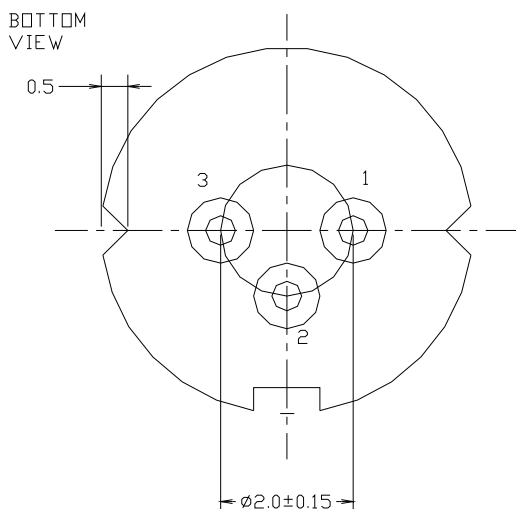
- Laser Pointer
- Optical Leveler
- Bar Code Reader

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 650 \text{ nm}$
- Optical Power Output : 5mW CW
- Package Type : TO-18 (5.6mm $\phi$ , without window glass)
- 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)

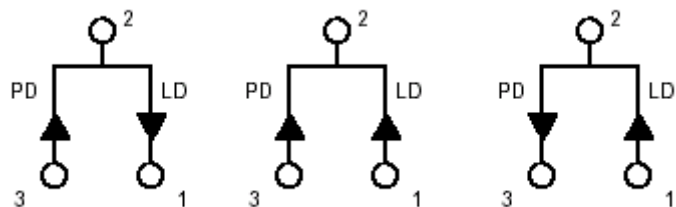


Fig. 1

QL65D5SA-N

Fig. 2

QL65D5SB-N

Fig. 3

QL65D5SC-N

◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbols	Values	Unit
Optical Output Power	P	7	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

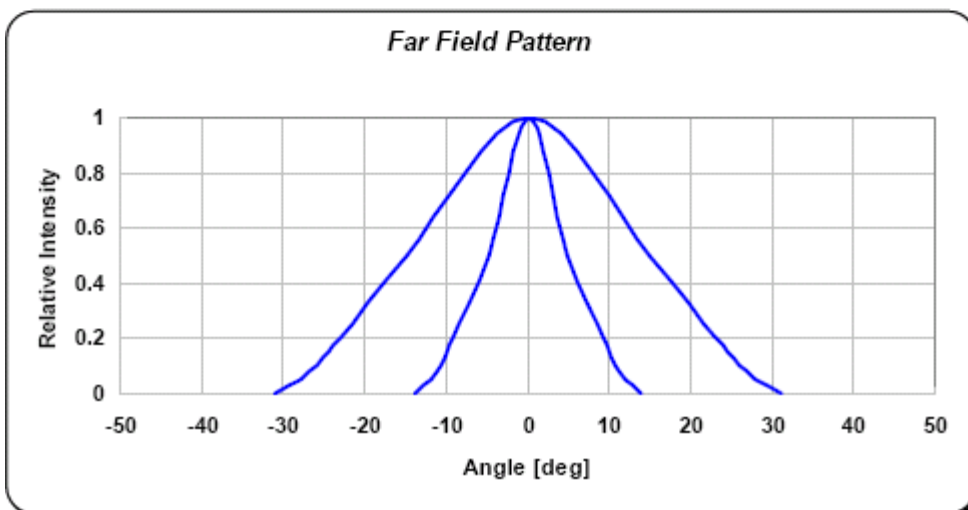
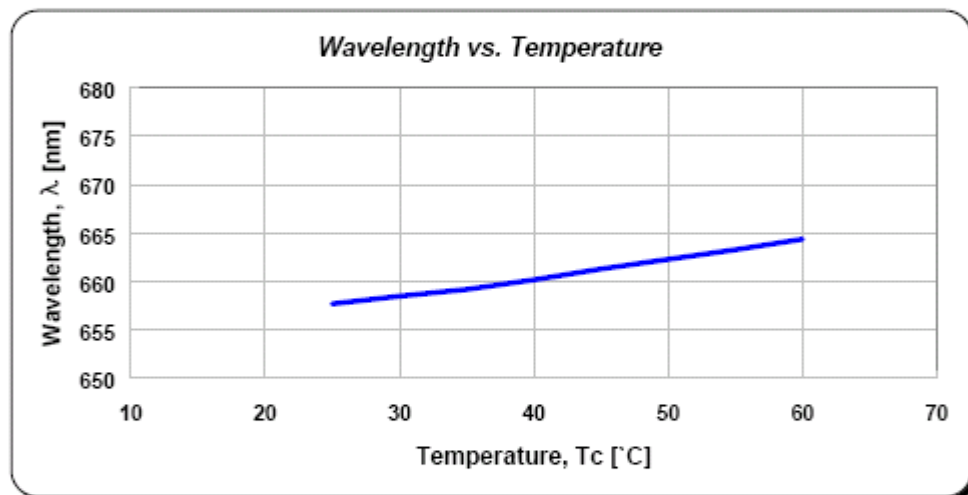
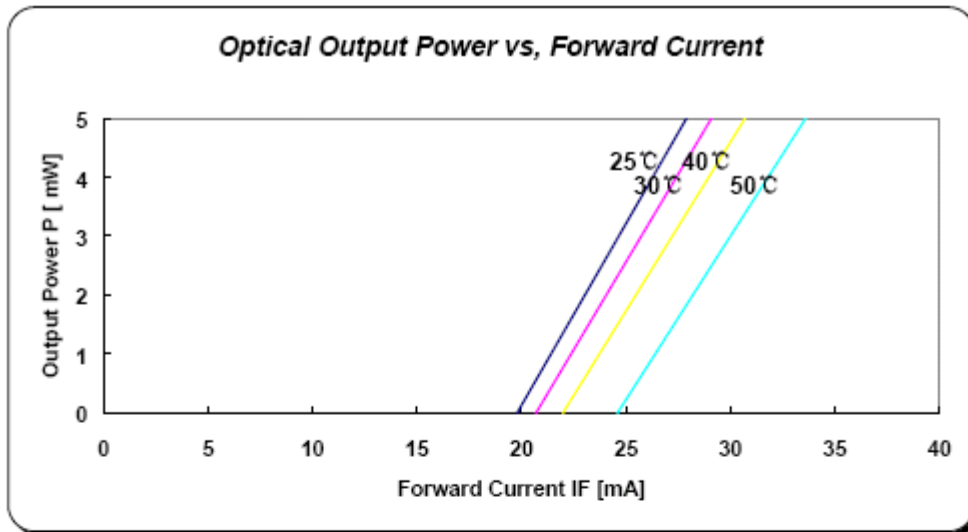
◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	Po	-	5	-	mW	-
Threshold Current	Ith	-	16	30	mA	-
Operating Current	Iop	-	22	35	mA	Po=5mW
Operating Voltage	Vop	-	2.2	2.6	V	Po=5mW
Lasing Wavelength	$\lambda_p$	650	655	660	nm	Po=5mW
Beam Divergence	$\theta_{  }$	6	9	12	deg	Po=5mW
	$\theta_{\perp}$	22	30	38	deg	Po=5mW
Beam Angle	$\Delta\theta_{  }$	-	-	±3.0	deg	Po=5mW
	$\Delta\theta_{\perp}$	-	-	±3.0	deg	Po=5mW
Monitor Current	I <sub>m</sub>	0.1	0.2	0.5	mA	Po=5mW
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	-
Life Time	MTTF	10000	-	-	hrs	Topr = 50 °C

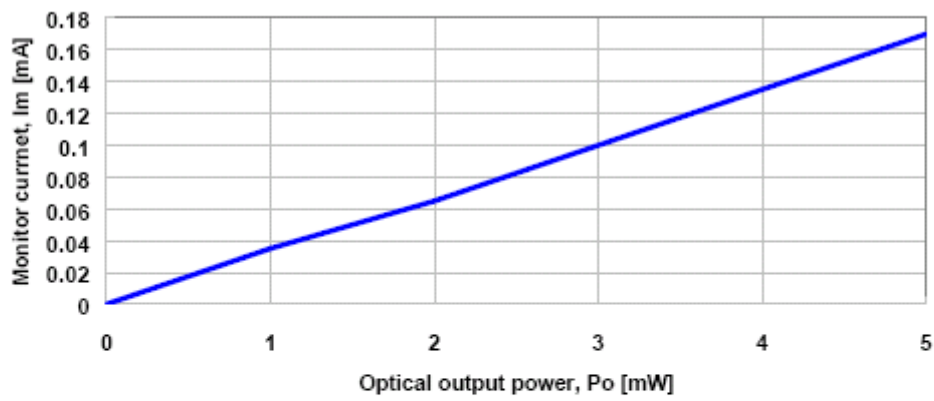
**NOTICE : QL65D5S-A/B/C-N to be operated on APC**

The above product specifications are subject to change without notice.

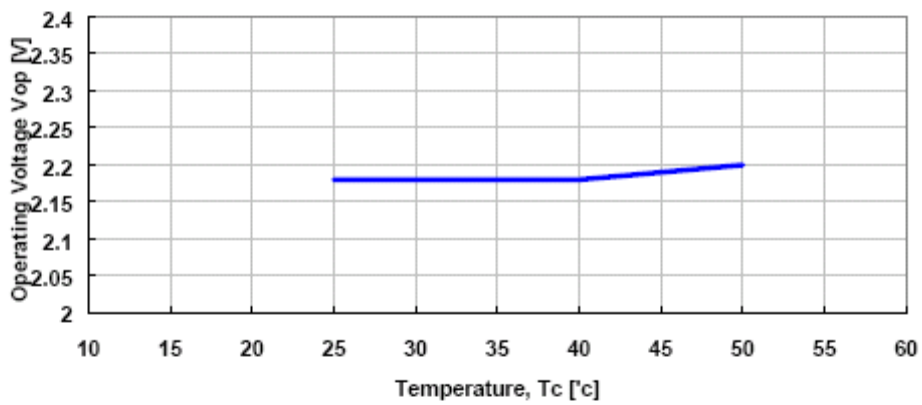
◆ EXAMPLE of REPRESENTATIVE CHARACTERISTICS



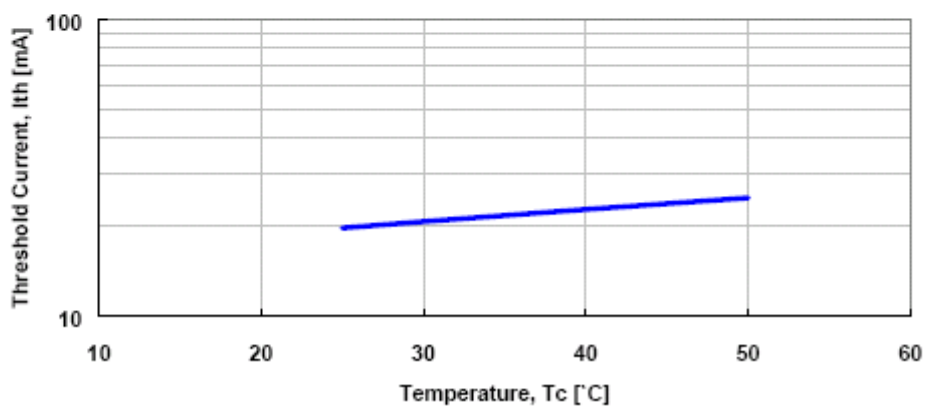
*Monitor Current vs. Optical Output Power*



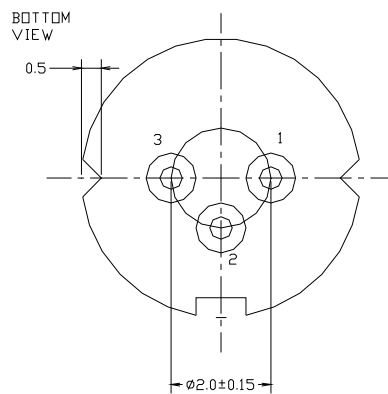
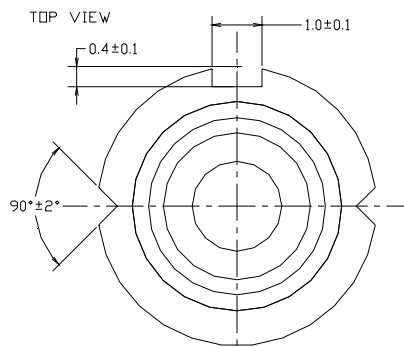
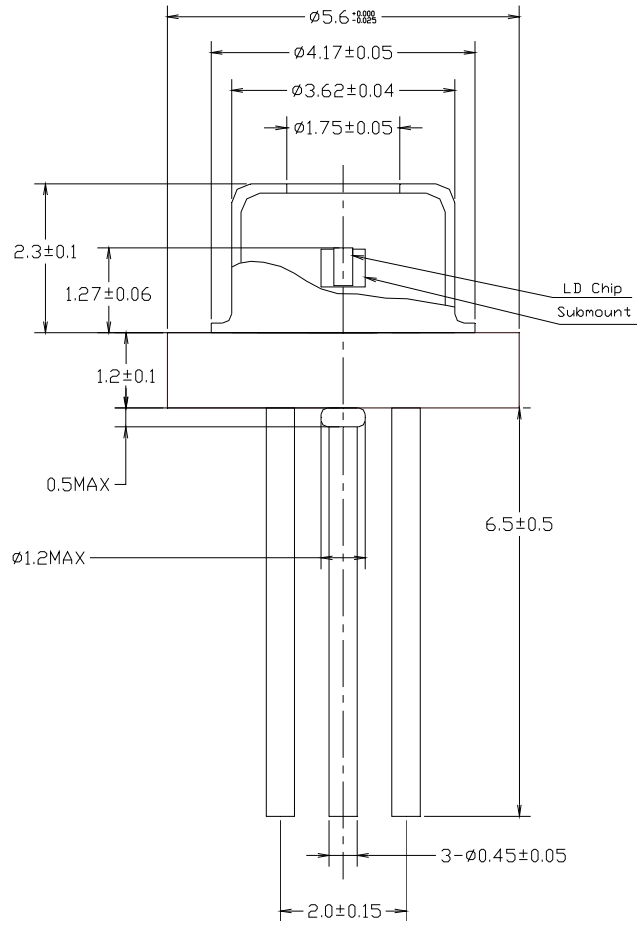
*Operating Voltage vs Temp*



*Threshold Current vs. Temp*



# ◆ PACKAGE DIMENSION



◆PACKING

