

QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :.

Model : QL65D5S-A/B/C

Signature of Approval

Approved by _____

Checked by _____

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QL65D5S-A/B/C

InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver. 0 JAN. 2004

◆ OVERVIEW

QL65D5S-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 5mW for optoelectronic devices such as Laser Pointer & Bar Code Reader.

◆ APPLICATION

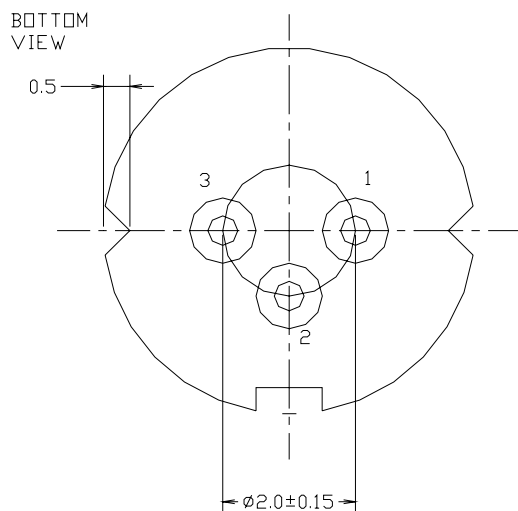
- Laser Pointer
- Optical Leveler
- Bar Code Reader

◆ FEATURES

- Visible Light Output : $\lambda_p = 650 \text{ nm}$
- Optical Power Output : 5mW CW
- Package Type : TO-18 (5.6mm 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) |

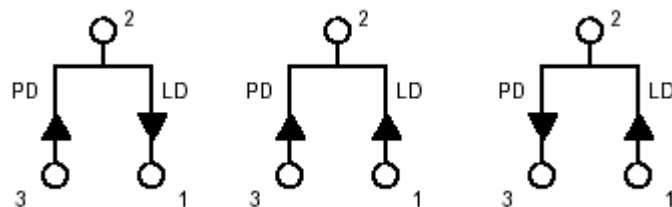


Fig. 1

QL65D5SA

Fig. 2

QL65D5SB

Fig. 3

QL65D5SC

◆ 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 |

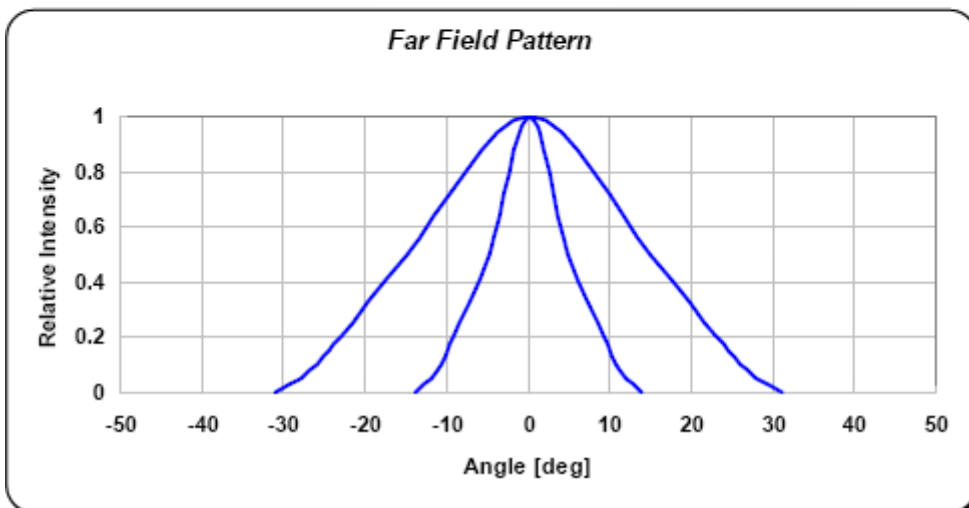
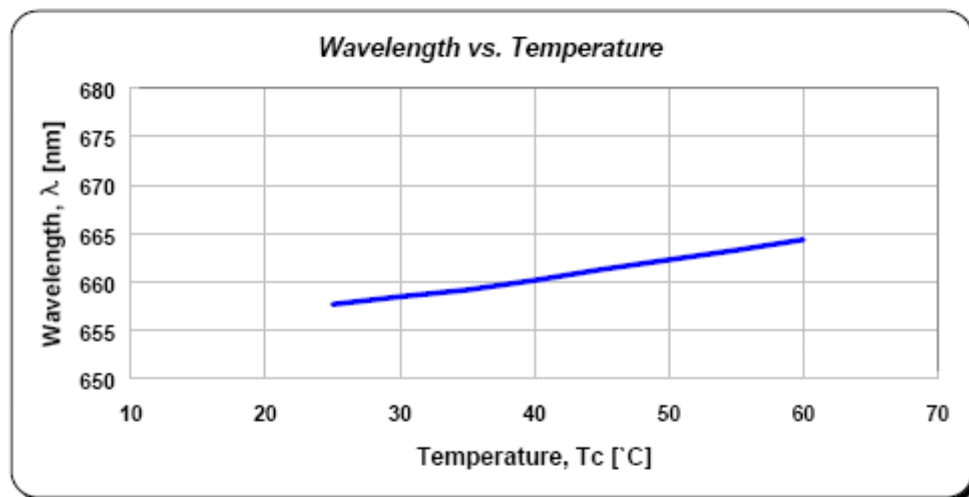
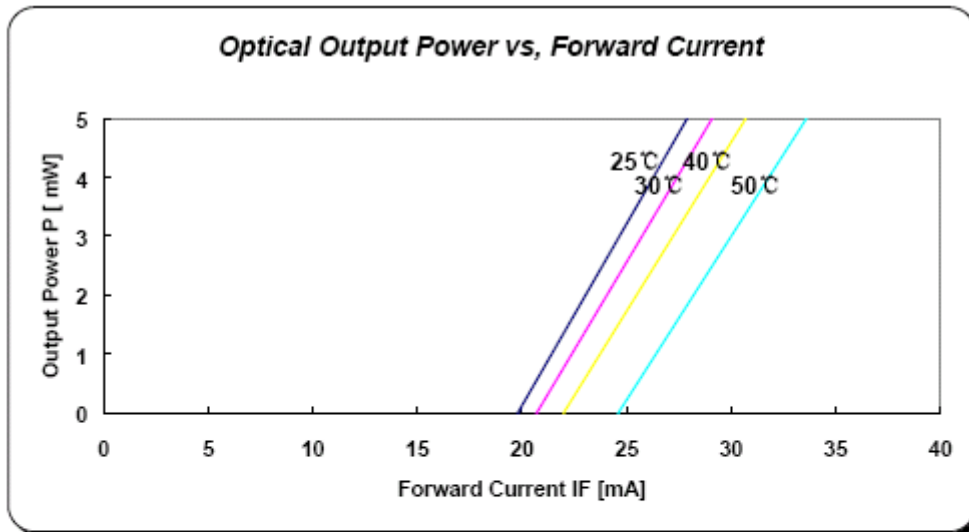
◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

| Items | Symbols | Min. | Typ. | Max. | Unit | Condition |
|----------------------|--------------------------------|------|------|------|------|-----------|
| Optical Output Power | Po | - | 5 | - | mW | - |
| Threshold Current | Ith | - | 21 | 30 | mA | - |
| Operating Current | Iop | - | 28 | 35 | mA | Po=5mW |
| Operating Voltage | Vop | - | 2.2 | 2.6 | V | Po=5mW |
| Lasing Wavelength | λ_p | 650 | 655 | 660 | nm | Po=5mW |
| Beam Divergence | $\theta_{ }$ | 6 | 8 | 12 | deg | Po=5mW |
| | θ_{\perp} | 22 | 32 | 38 | deg | Po=5mW |
| Beam Angle | $\Delta\theta_{ }$ | - | - | ±1.5 | deg | Po=5mW |
| | $\Delta\theta_{\perp}$ | - | - | ±2.5 | deg | Po=5mW |
| Monitor Current | I _m | 0.1 | 0.2 | 0.5 | mA | Po=5mW |
| Optical Distance | $\Delta X, \Delta Y, \Delta Z$ | - | - | ±60 | μm | - |

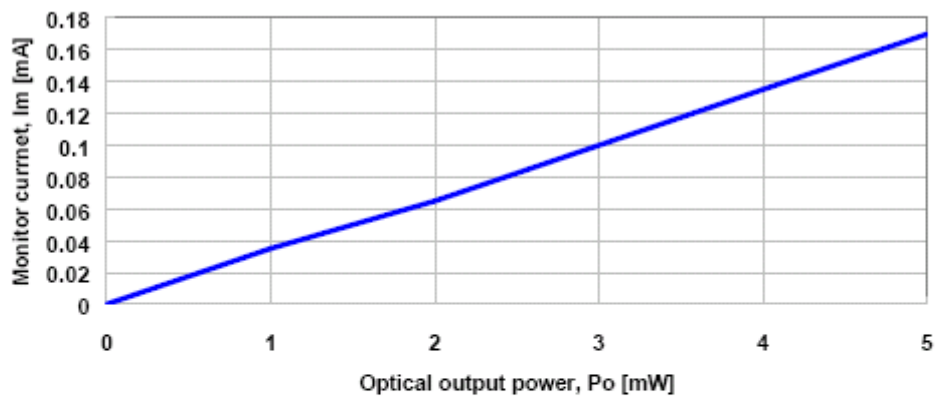
NOTICE : QL65D5S-A/B/C to be operated on APC

The above product specifications are subject to change without notice.

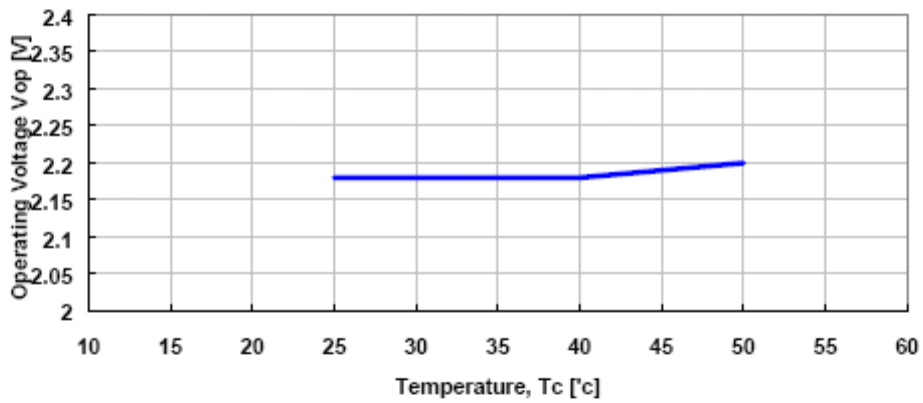
◆ EXAMPLE of REPRESENTATIVE CHARACTERISTICS



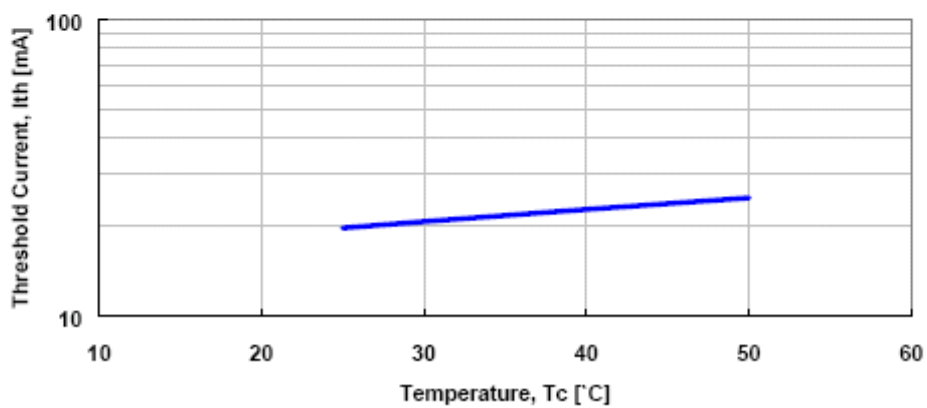
Monitor Current vs. Optical Output Power



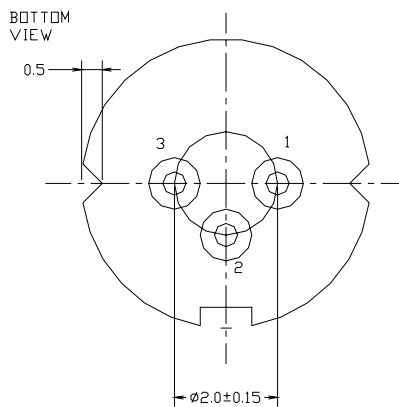
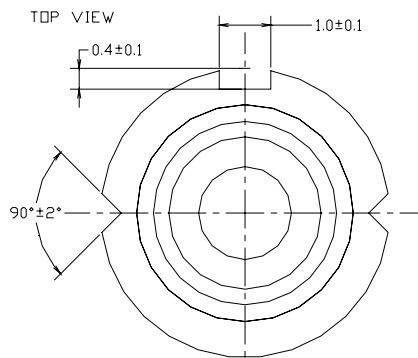
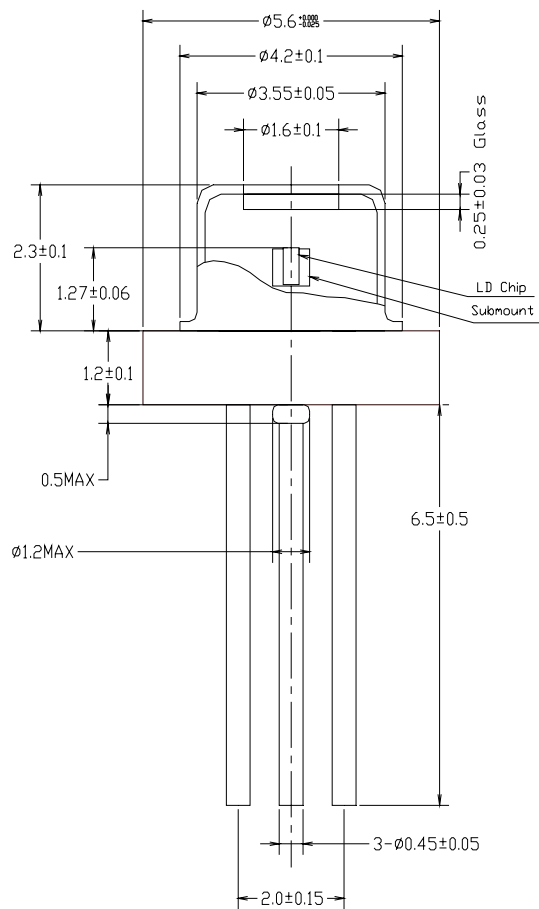
Operating Voltage vs Temp



Threshold Current vs. Temp



◆ PACKAGE DIMENSION



◆PACKING

