

QSI LASER DIODE SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL90F7S-A/B/C

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL90F7S-A/B/C

InGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Jun.2004. Ver. 0

◆ OVERVIEW

QL90F7S-A/B/C is a MOCVD grown 905nm band *InGaAs* laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 10mW for Laser, industrial optical module and sensor application

◆ APPLICATION

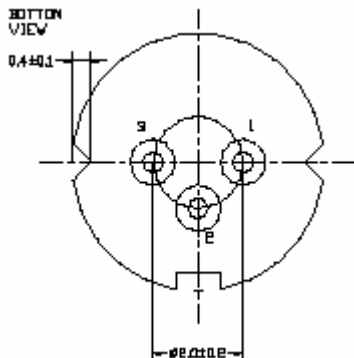
- Sensor

◆ FEATURES

- Visible Light Output : $\lambda_p = 905 \text{ nm}$
- 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) |

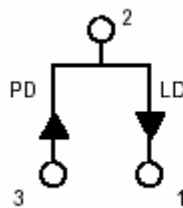


Fig. 1

QL90F7SA

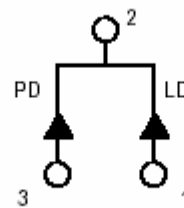


Fig. 2

QL90F7SB

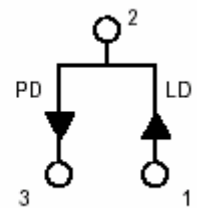


Fig. 3

QL90F7SC

◆ **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 ~ +70 | °C |
| Storage Temperature | Tstg | -40 ~ +85 | °C |

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

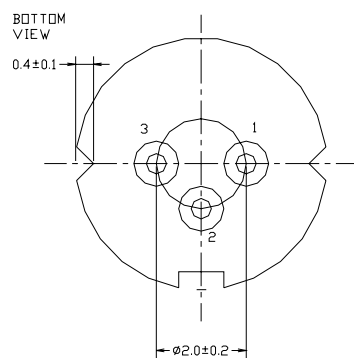
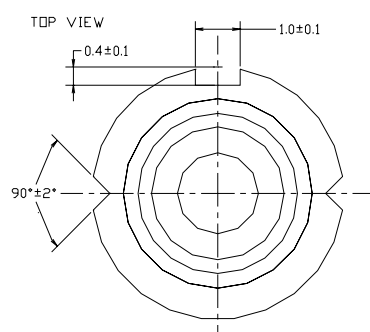
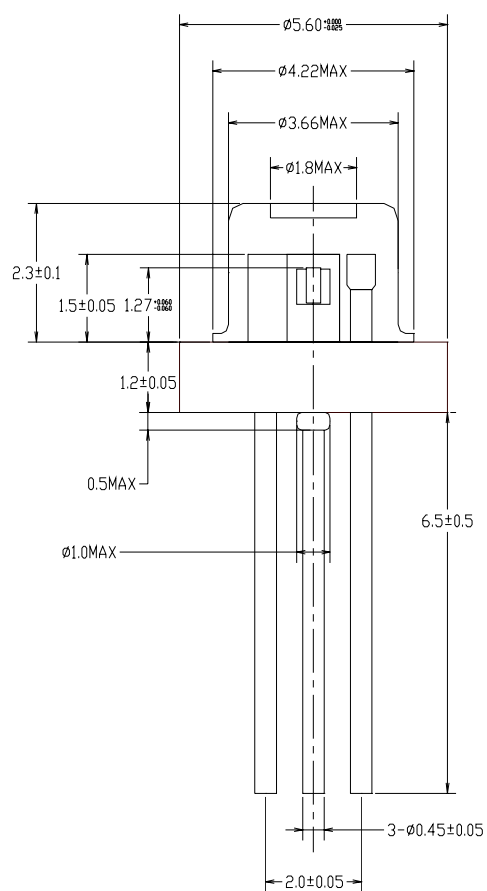
| Items | Symbols | Min. | Typ. | Max. | Unit | Condition |
|----------------------|--------------------------------|------|------|------|---------|-----------|
| Optical Output Power | Po | - | 10 | - | mW | - |
| Threshold Current | Ith | - | 15 | 25 | mA | - |
| Operating Current | Iop | - | 40 | 60 | mA | Po=10mW |
| Operating Voltage | Vop | 1.6 | 2.0 | 2.5 | V | Po=10mW |
| Slope Efficiency | SE | 0.3 | 0.5 | 0.7 | mW/mA | |
| Lasing Wavelength | λ_p | 895 | 905 | 915 | nm | Po=10mW |
| Beam Divergence | $\theta_{ }$ | 9 | 13 | 15 | deg | Po=10mW |
| | θ_{\perp} | 26 | 33 | 36 | deg | Po=10mW |
| Beam Angle | $\Delta\theta_{ }$ | - | - | ±2.5 | deg | Po=10mW |
| | $\Delta\theta_{\perp}$ | - | - | ±3.0 | deg | Po=10mW |
| Monitor Current | Im | 0.1 | 0.4 | 0.6 | mA | Po=10mW |
| Optical Distance | $\Delta X, \Delta Y, \Delta Z$ | - | - | 60 | μm | Po=10mW |

NOTICE : QL90F7S-A/B/C to be operated on APC

The above product specifications are subject to change without notice.



◆ PACKAGE DIMENSION



◆PACKING

