

QSI LASER DIODE

SPECIFICATIONS FOR APPROVAL

Customer :

Model : QL65D6SA

Signature of Approval

Approvaed by

Checked by

Issued by

Approval by Customer



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QL65D6SA

InGaAlP Laser Diode

Quantum Semiconductor International Co., Ltd.

2003. Rev 0

◆ OVERVIEW

QL65D6SA 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 Bar Code Reader.

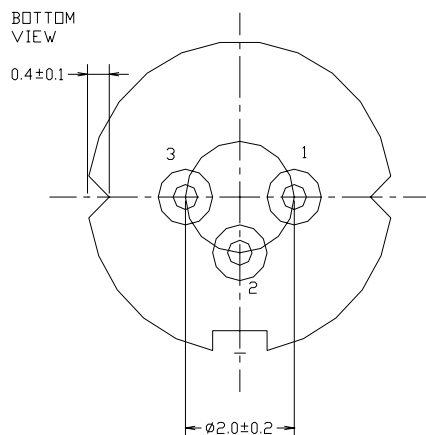
◆ APPLICATION

- Optical Leveler
- Laser Module
- Bar Code Reader

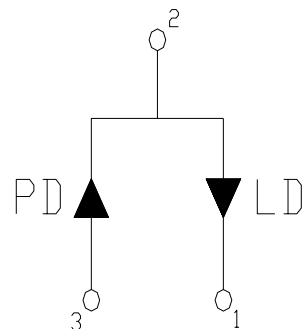
◆ FEATURES

- 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

◆ **ABSOLUTE MAXIMUM RATING at Tc=25°C**

Items	Symbols	Values	Unit
Optical Output Power	P	5	mW
Laser Diode Reverse Voltage	V	2	V
Photo Diode Reverse Voltage	V	30	V
Operating Temperature	Topr	-10 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

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

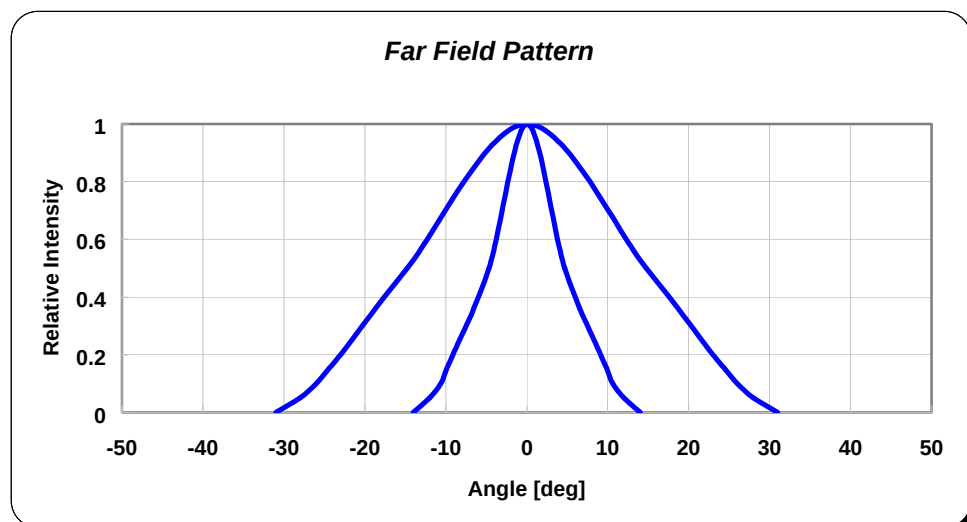
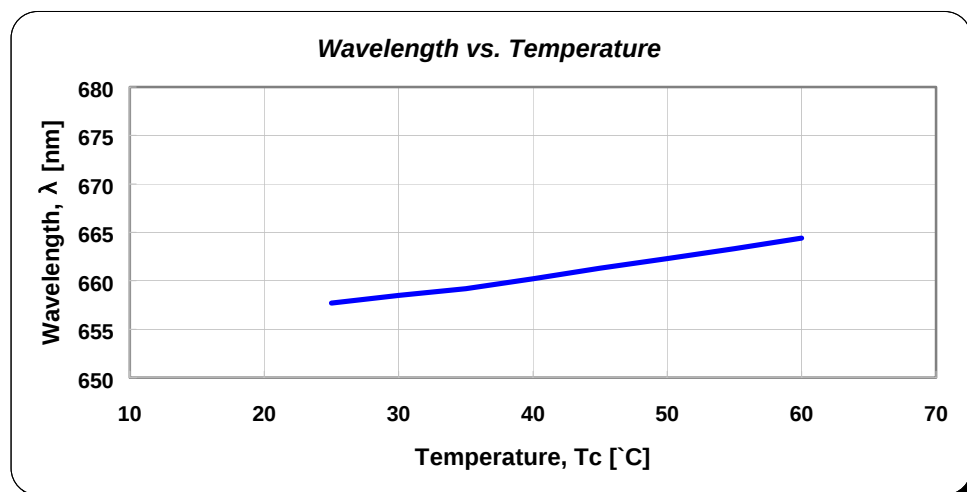
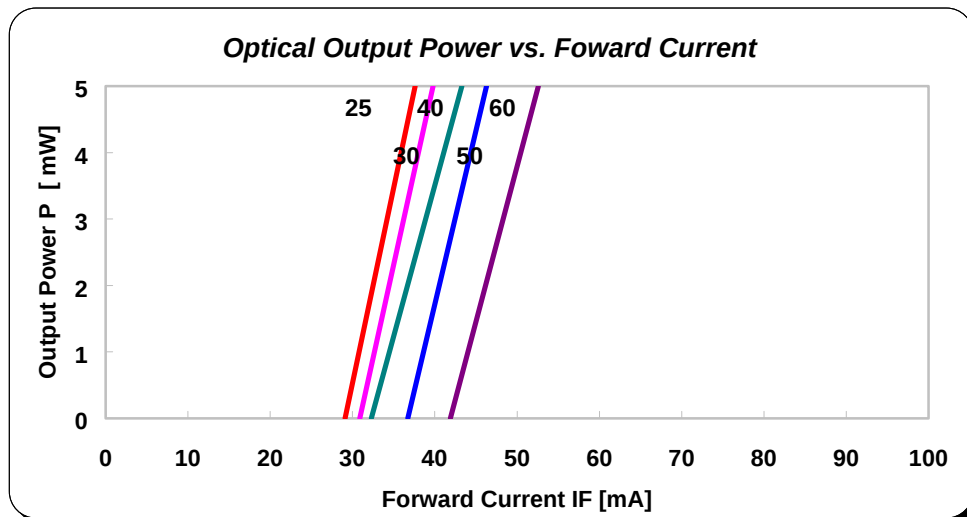
Items	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical Output Power	Po	-	5	-	mW	-
Threshold Current	Ith	-	30	45	mA	-
Operating Current	Iop	-	40	55	mA	Po=5mW
Slope Efficiency	SE	0.4	0.5	0.8	mW/mA	3~5 mW
Operating Voltage	Vop	-	2.2	2.6	V	Po=5mW
Lasing Wavelength	λ_p	650	655	660	nm	Po=5mW
Beam Divergence	$\theta_{ }$	7	8.5	10	deg	Po=5mW
	$\theta_{\perp}$	26	28	32	deg	Po=5mW
Beam Angle	$\Delta\theta_{ }$	-	-	±1.5	deg	Po=5mW
	$\Delta\theta_{\perp}$	-	-	±2.5	deg	Po=5mW
Monitor Current	Im	0.1	0.2	0.5	mA	Po=5mW
KINK	K-LI			10	%	
Astigmatism	As			10	μm	
Optical Distance	$\Delta X, \Delta Y, \Delta Z$	-	-	±60	μm	
PD DARK CURRENT	ID		5	10	nA	VR=10V
PD Capacitance	Ct		-5	-10	pF	Vrd=0.5V f=1MHZ

NOTICE : QL65D6SA to be operated on APC circuit.

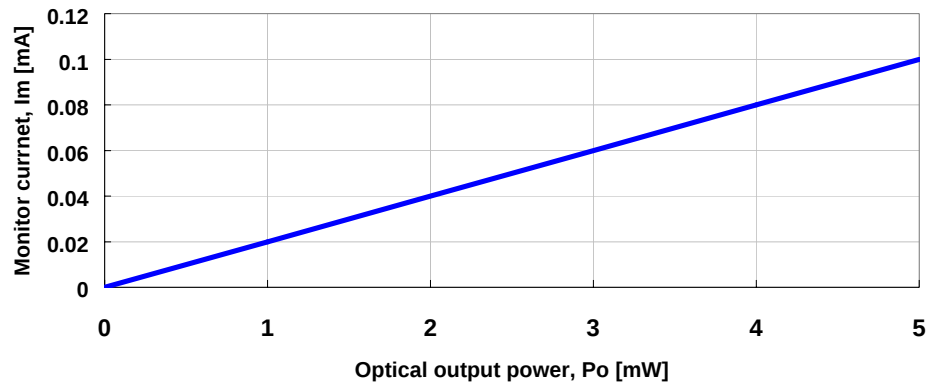
The above product specifications are subject to change without notice.



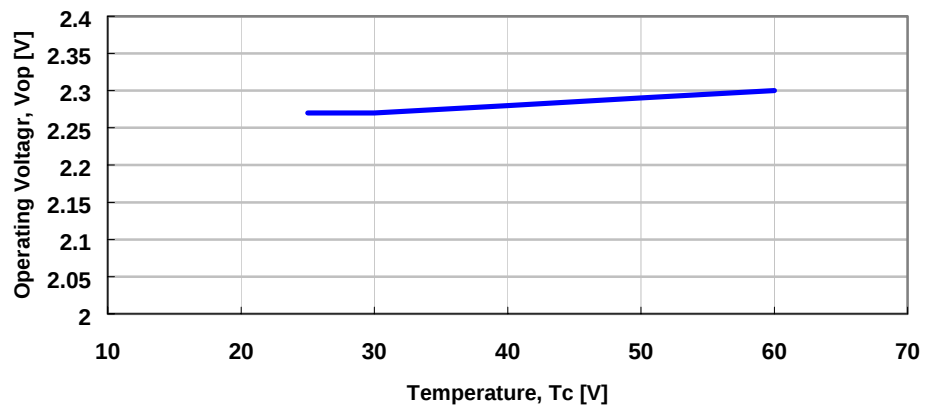
◆EXAMPLE of REPRESENTATIVE CHARACTERISTICS



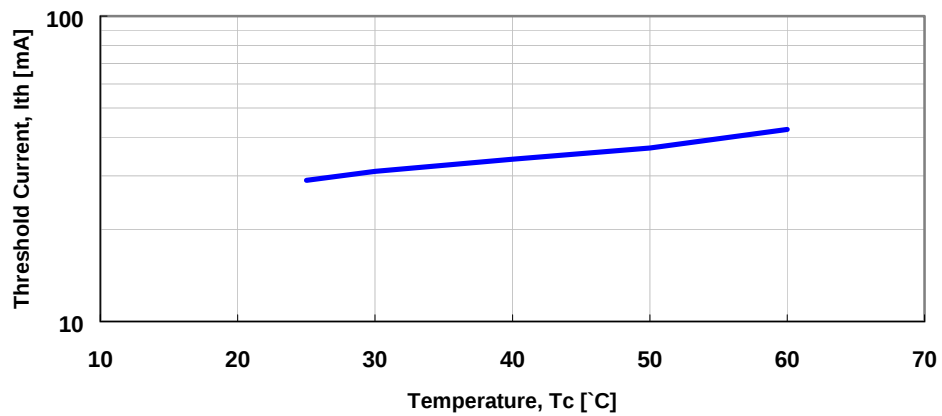
Monitor Current vs. Optical Output Power



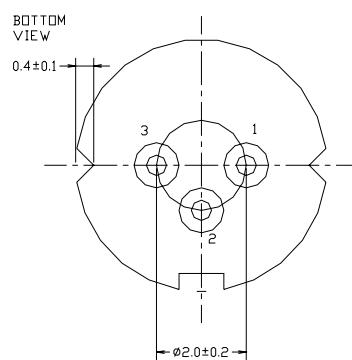
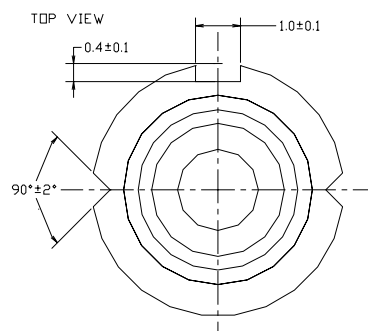
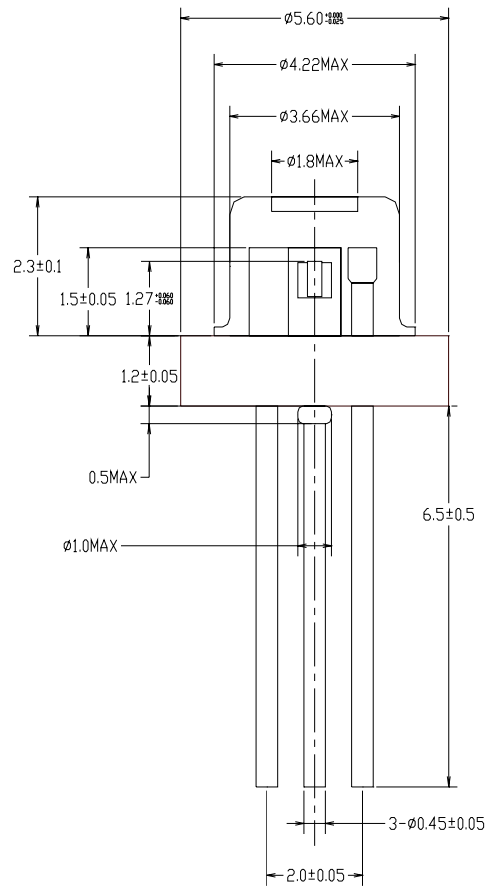
Operating Voltage vs. Temp



Threshold Current vs. Temp



◆ PACKAGE DIMENSION



◆PACKING

