

QSI LASER DIODE SPECIFICATIONS

Customer :

Tentative

Model : QL90X8SM

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



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QL90X8SM

InGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.1 2018

◆ OVERVIEW

QL90X8SM is a MOCVD grown 905nm band *InGaAs* laser diode with quantum well structure.

It's an attractive light source, with a optical peak output power of 75W (pulse operation) for industrial optical module and sensor applications.

◆ APPLICATION

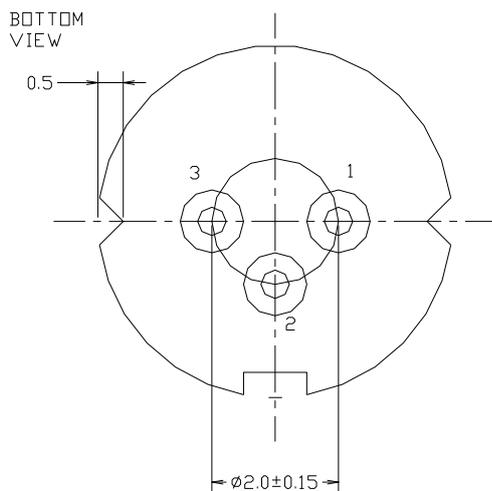
- Laser Range Finder (LRF) , Automotive applications

◆ FEATURES

- Light Output : $\lambda_p = 905 \text{ nm}$
- Optical Power Output : 75W (Pulse Operation)
- Package Type : TO-18 (5.6mm ϕ)

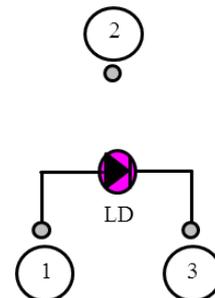
◆ ELECTRICAL CONNECTION

Bottom View



Pin Configuration

M	1: Anode (+)	3: Cathode (-)
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◆ ABSOLUTE MAXIMUM RATING (Short time Operation, Tc=25°C)

Items	Symbols	Values	Unit
Peak Output Power	P_{max}	85	W
Forward Current	I_F	40	A
Pulse Width (FWHM)	tp	100	ns
Duty Ratio	dr	0.1	%
Operating Temperature	T_{opr}	-40 ~ 85	°C
Storage Temperature	T_{stg}	-40 ~ 125	°C

◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

Items	Symbols	Min.	Typ.	Max.	Unit
Optical Output Power	P_{op}	70	75	-	W
Emission Wavelength	λ_p	895	905	915	nm
Spectral Width (FWHM)	$\Delta\lambda$	-	7	-	nm
Threshold Current	I_{th}	-	-	1	A
Operating Current	I_{op}	-	30	-	A
Operating Voltage	V_{op}			16	V
Beam Divergence	$\theta_{ }$	-	10	-	deg
	θ_{\perp}	-	28	-	deg

*Operating condition - Pulse Width $P_w = 100\text{nsec}$, Repetition Frequency $F_r = 1\text{kHz}$, duty ratio $D_r = 0.01\%$

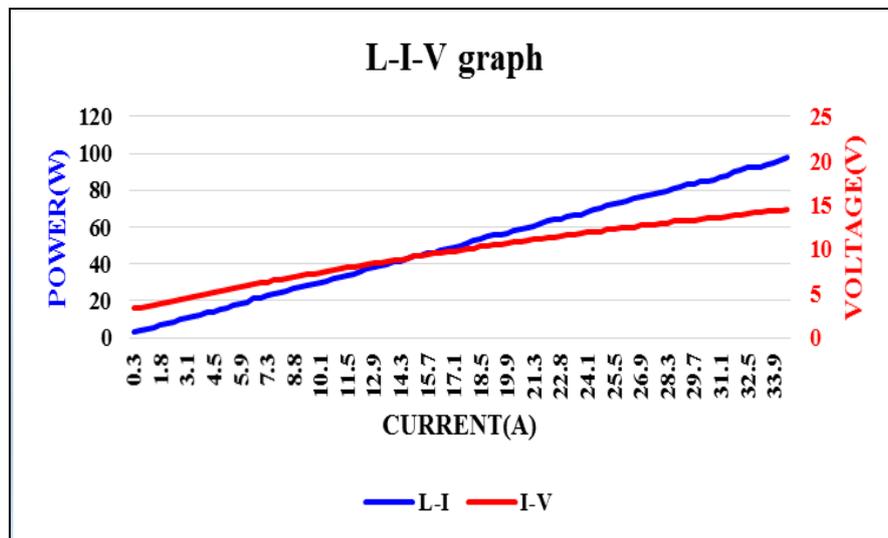
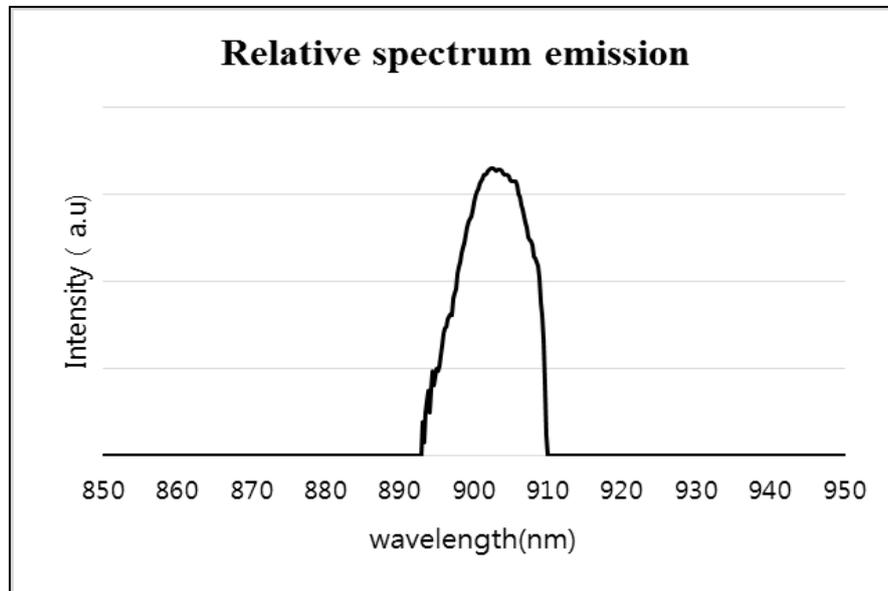
◆ CHIP CHARACTERISTICS

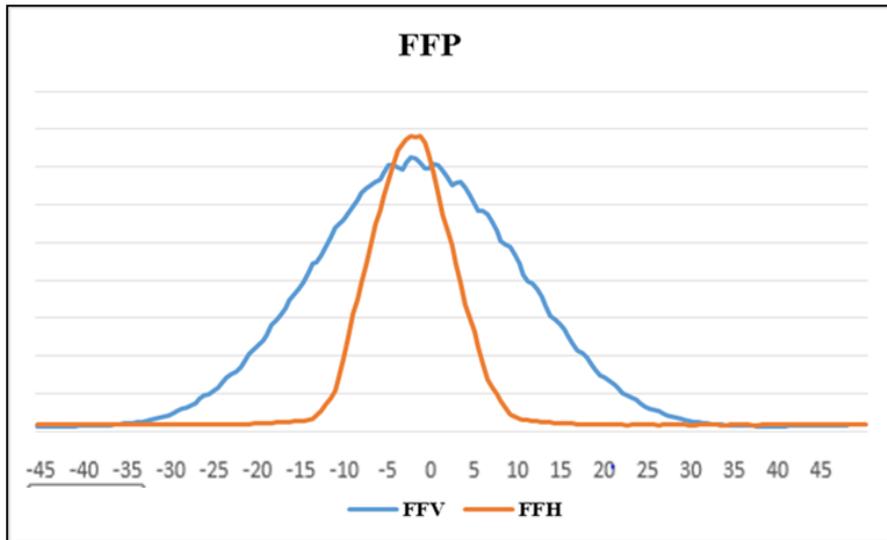
Size	symbols	Min.	Type.	Max.	Unit
Aperture Size	W×H	—	200×10	—	μm^2
Chip width	W	390	400	410	μm
Chip length	L	590	600	610	μm
Chip thickness	H	105	120	135	μm

The above product specifications are subject to change without notice.

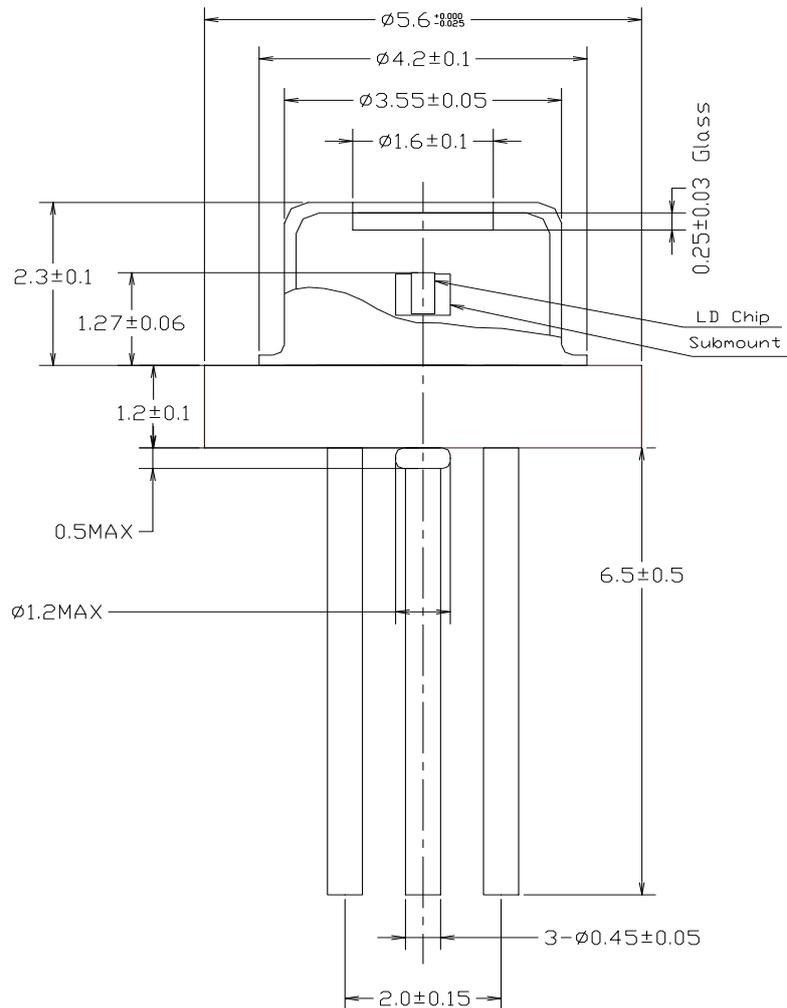
◆ E-O CHARACTERISTICS

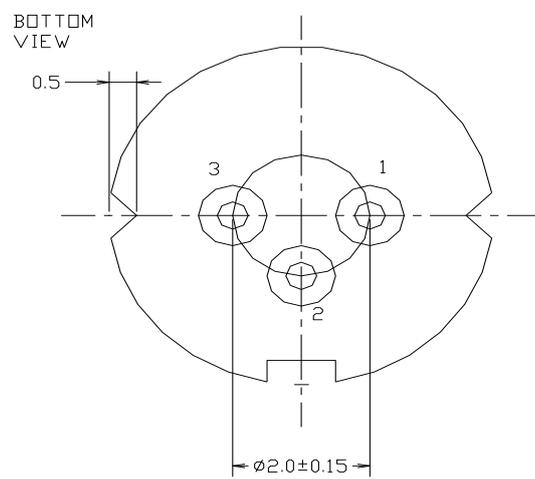
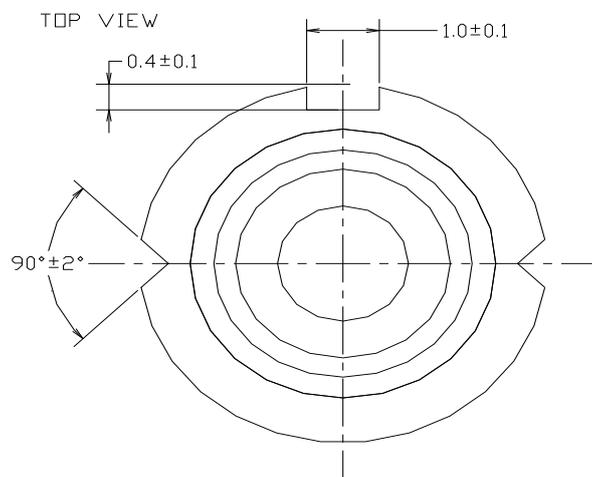
(Measurement Cond. - Room temp. Power = 75W)





◆ PACKAGE DIMENSION





◆PACKING

