QSI LASER DIODE SPECIFICATIONS

Customer :

Tentative

Model : QL90V8SM-7

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer

_____

QSI Co., Ltd.

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QL90V8SM-7

InGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.2 2018

♦OVERVIEW

QL90V8SM-7 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 21W (pulse operation) for industrial optical module and sensor applications.

♦APPLICATION

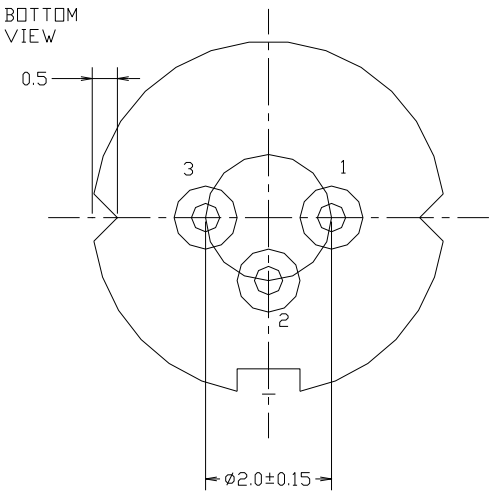
- Laser Range Finder (LRF) , Automotive applications

♦FEATURES

- Light Output : λp = 905 nm
- Optical Power Output : 21W (Pulse Operation)
- Package Type : TO-18 (5.6mmϕ)

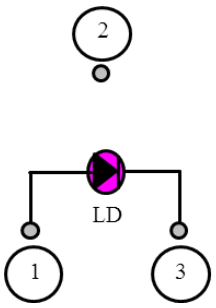
♦ELECTRICAL CONNECTION

Bottom View



Pin Configuration

M	1: anode (+) 3: Cathode (-)



♦ABSOLUTE MAXIMUM RATING (Short time Operation, Tc=25°C)

Items	Symbols	Values	Unit
Peak Output Power	P_{max}	30	W
Forward Current	I_F	10	A
Pulse width (FWHM)	tp	100	ns
Duty Ratio	dr	0.1	%
Reverse Voltage	V_R	3	V
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	Pop	17	21	-	W
Emission Wavelength	λp	895	905	915	nm
Spectral Width (FWHM)	Δλ	-	5	-	nm
Threshold Current	I_{th}	-	-	0.5	A
Operating Current	Iop	-	7	-	A
Operating Voltage	Vop	-	-	12	V
Beam Divergence	θ∥	-	10	-	deg
	θ⊥	-	28	-	deg

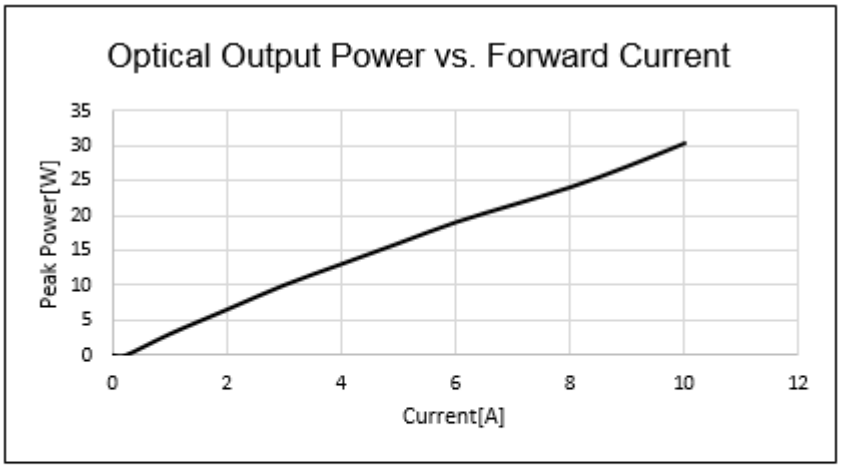
*Operating condition - Pulse Width P_w = 100nsec, Repetition Frequency Fr=1kHz, Duty Ratio Dr=0.01%

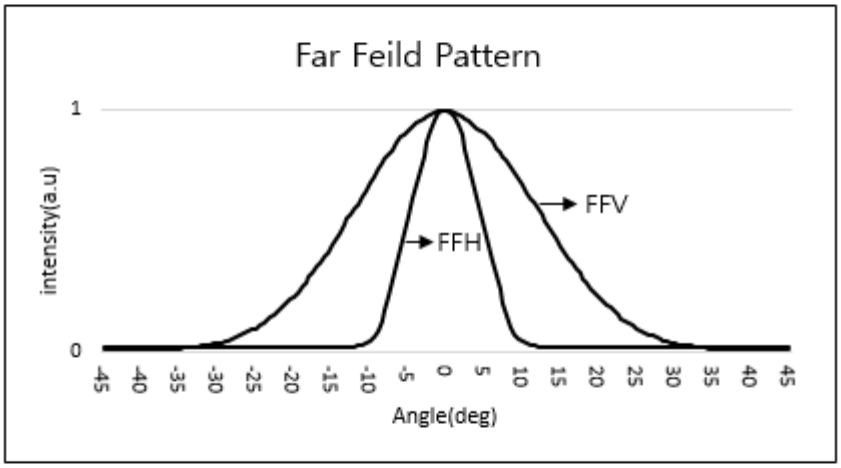
♦CHIP CHARACTERISTICS

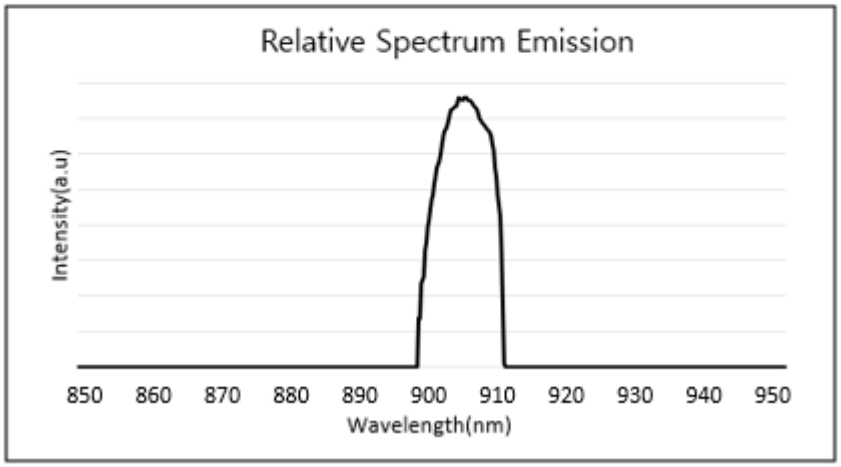
Size	symbols	Min.	Type.	Max.	Unit
Aperture Size	W×H	—	75×10	—	μm^2

The above product specifications are subject to change without notice.

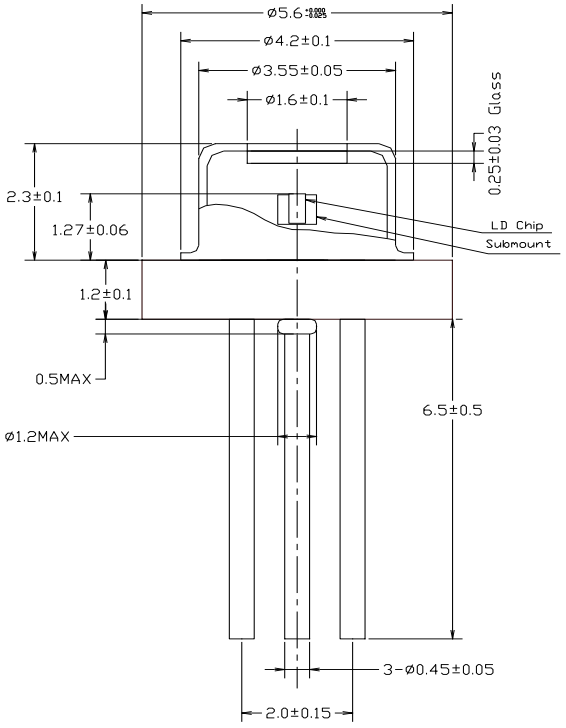
♦E-O CHARACTERISTICS at Tc=25°C

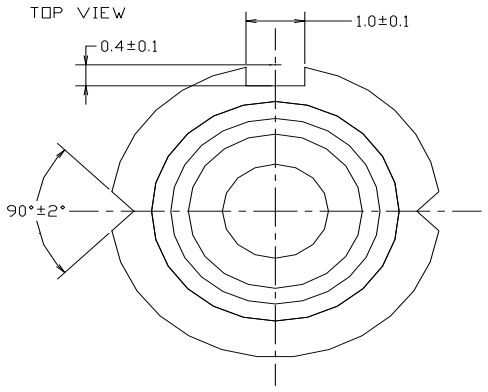


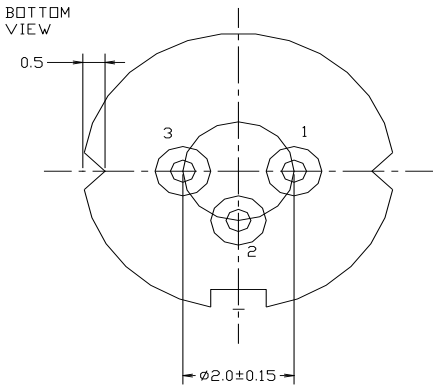




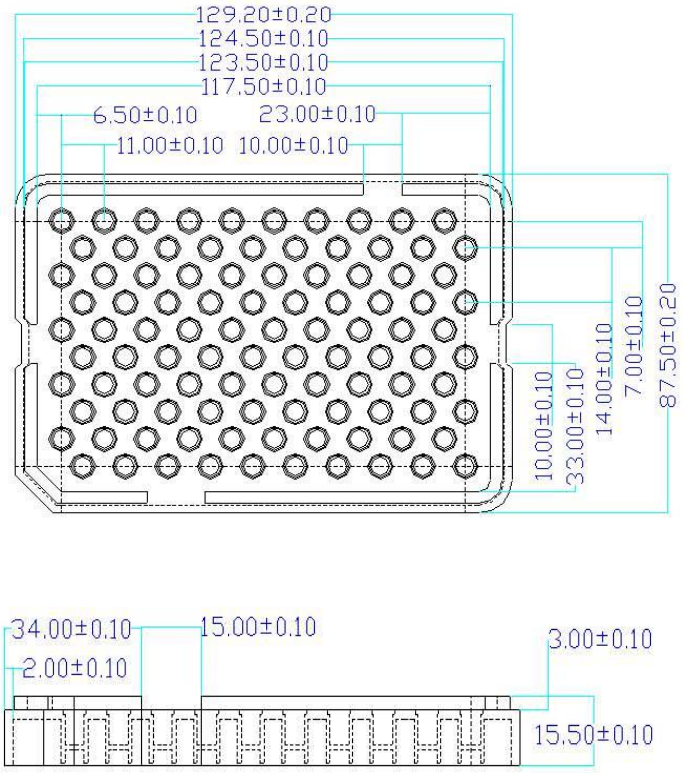
♦PACKAGE DIMENSION







♦PACKING



***Precautions**

1. Operating the laser diode exceeding the Maximum rating conditions, even momentarily, may cause device failure or safety hazard.
2. It is highly recommended to prevent ESD or surge current from the laser diode. ESD is the primary cause of unexpected device failure.
3. When the laser diode is in operation, looking into laser beam directly by naked eyes may cause severe damage to human eyes.

QSI Co., Ltd.