

**QSI LASER DIODE
SPECIFICATIONS FOR APPROVAL**

Tentative

Customer :

Model : QL78F6SG-Q

Signature of Approval

Approved by _____

Checked by _____

Issued by _____

Approval by Customer



QSI Co., Ltd.

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QL78F6SG-Q

AlGaAs Laser Diode

Quantum Semiconductor International Co., Ltd.

Ver.1 2013

◆ OVERVIEW

QL78F6SG-Q is a MOCVD grown 780nm band AlGaAs laser diode with quantum well structure. It's an attractive light source with a typical light output power of 10mW for industrial optical module and sensor application.

◆ APPLICATION

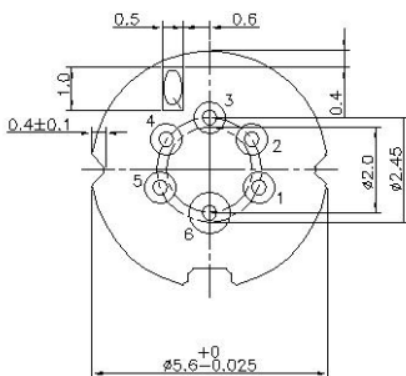
- Laser Printer
- Digital Copiers
- Industrial optical module

◆ FEATURES

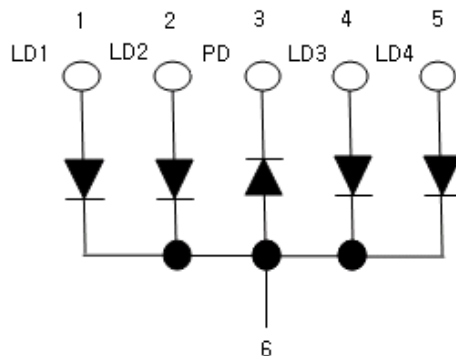
- Visible Light Output : $\lambda_p = 780 \text{ nm}$
- Optical Power Output : 10mW CW
- Number of Beams : 4
- Nominal Beam to Beam Separation : 14um pitch (beam to beam distance)
- Package Type : TO-18 (5.6mm ϕ)
- Built-in Photo Diode for Monitoring Laser Diode

◆ ELECTRICAL CONNECTION

Bottom View



Pin Configuration



◆ ABSOLUTE MAXIMUM RATING at Tc=25°C

Items	Symbol	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 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +85	°C

◆ ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C

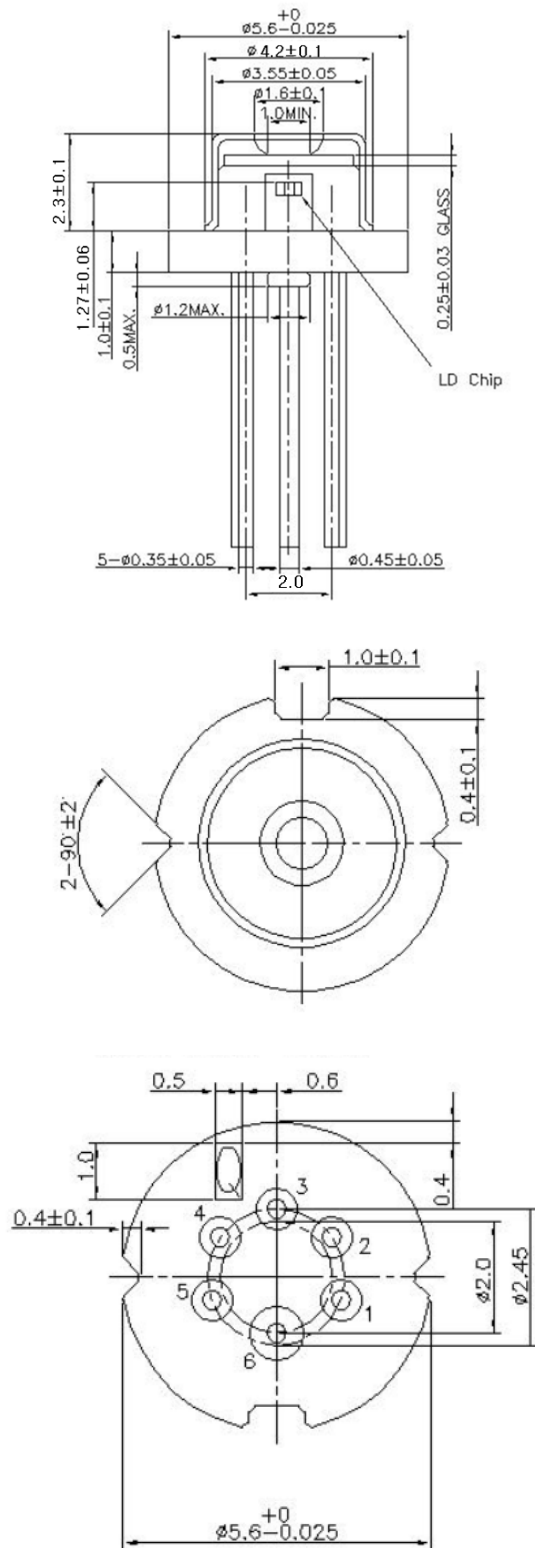
Items	Symbols	Min.	Typ.	Max.	Diff.	Unit	Condition
Optical Output Power	Po	-	10	-		mW	-
Threshold Current	Ith	8	18	24	2	mA	-
Operating Current	Iop	-	33	44	3	mA	Po=10mW
Differential efficiency	η	0.35	0.5	0.8	0.2	mA	8mW/ I(10mW)-I(2mW)
Operating Voltage	Vop	1.5	2.0	2.5		V	Po=10mW
Lasing Wavelength	λ_p	775	788	790	2	nm	Po=10mW
Beam Divergence	$\theta_{ }$	7	9	12	2		Po=10mW
	θ_{\perp}	25	31	35	4		Po=10mW
Beam Angle	$\Delta\theta_{ }$			± 2		Deg	Po=10mW
	$\Delta\theta_{\perp}$			± 3		Deg	Po=10mW
Monitor Current	I _m	0.4	0.9	1.4	30%	mA	Po=10mW
Center to Center spacing between adjacent beams		13.7	14	14.3		um	SEM measurement
Beam Spacing		41.7	42	42.3		um	LD1 to LD4

NOTICE : QL78F6SG-Q to be operated on APC circuit.

The above product specifications are subject to change without notice.



◆ PACKAGE DIMENSION



◆PACKING

