PRELIMINARY

ML8XX4 SERIES

980nm High Power Laser Diode

TYPE NAME

ML8624S,ML8924 (980nm High Power LD)

DESCRIPTION

ML8xx4 series are InGaAs/ GaAs high power laser diodes which provide a stable, single transverse mode oscillation with emission wavelength of 980nm, and standard continuous light output of @200,150,100mW.

FEATURES

- Various Power (CW 200,150,100mW)
- 980nm typical emission wavelength
- φ5.6mm TO-CAN, Chip on carrier package
- Uncooled operation (0-70degC)
- High reliability, long operation life
- Ridge waveguide with window structure
- Reflectivity 4% (front facet)

APPLICATION

- Er-doped fiber amplifier
- Er-doped waveguide amplifier

ABSOLUTE MAXIMUM RATINGS (Note)

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	250	mW
V_R	Reverse voltage	-	2	V
Tc	Case temperature	-	+ 0 ~ +70	degC
Tstg	Storage temperature	-	- 40 ~+100	degC

Note: The absolute maximum rating means the limitation over which the laser should not be operated even instant time, and this does not mean the guarantee of its lifetime. As for the reliability , please refer to the reliability report from Mitsubishi Semiconductor Quality Assurance Department.

ML8624S-01, ML8924-01

ELECTRICAL/OPTICAL CHARACTERISTICS (Po=200mW, Tc=0-70deg.C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	60	150	mA
Iop	Operation current	CW,Po=200mW	-	260	350	mA
Vop	Operating voltage	CW,Po=200mW	-	1.72	2.05	V
λc	Center wavelength	CW,Po=200mW (25degC)	970	980	990	nm
Δλ	Spectral width (RMS , -20dB)	CW,Po=200mW, RMS	-	3	-	nm
θ//	Beam divergence angle (parallel)	CW,Po=200mW	3	6	9	deg.
θ⊥	Beam divergence angle (perpendicular)	CW,Po=200mW	13	18	23	deg.
Im	Monitor current	CW,Po=200mW	-	0.49	-	mA

PRELIMINARY

ML8XX4 SERIES

980nm High Power Laser Diode

TYPE NAME

ML8624S,ML8924 (980nm High Power LD)

ML8624S-02, ML8924-02

ELECTRICAL/OPTICAL CHARACTERISTICS (Po=150mW, Tc=0-70deg.C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	60	150	mA
Iop	Operation current	CW,Po=150mW	-	210	300	mA
Vop	Operating voltage	CW,Po=150mW	-	1.66	1.95	V
λc	Center wavelength	CW,Po=150mW (25degC)	970	980	990	nm
Δλ	Spectral width (RMS , -20dB)	CW,Po=150mW, RMS	-	3	-	nm
θ//	Beam divergence angle (parallel)	CW,Po=150mW	3	6	9	deg.
θ⊥	Beam divergence angle (perpendicular)	CW,Po=150mW	13	18	23	deg.
Im	Monitor current	CW,Po=150mW	-	0.36	-	mA

ML8624S-03, ML8924-03

ELECTRICAL/OPTICAL CHARACTERISTICS (Po=100mW, Tc=0-70deg.C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	60	150	mA
Iop	Operation current	CW,Po=100mW	-	160	250	mA
Vop	Operating voltage	CW,Po=100mW	-	1.59	1.90	V
λc	Center wavelength	CW,Po=100mW (25degC)	970	980	990	nm
Δλ	Spectral width (RMS , -20dB)	CW,Po=100mW, RMS	-	3	-	nm
θ//	Beam divergence angle (parallel)	CW,Po=100mW	3	6	9	deg.
θ⊥	Beam divergence angle (perpendicular)	CW,Po=100mW	13	18	23	deg.
Im	Monitor current	CW,Po=100mW	-	0.24	-	mA

PRELIMINARY

ML8XX4 SERIES

980nm High Power Laser Diode

TYPE NAME

ML8624S,ML8924

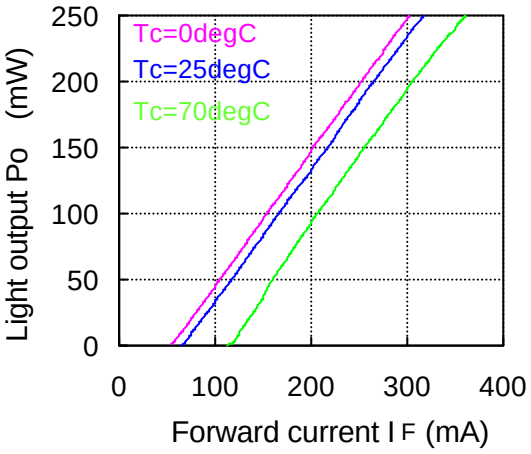


Fig.1 Light output vs. forward current

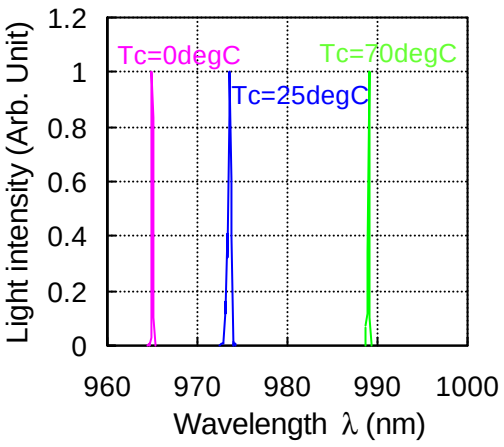


Fig.2 Spectrum (Po=200mW)

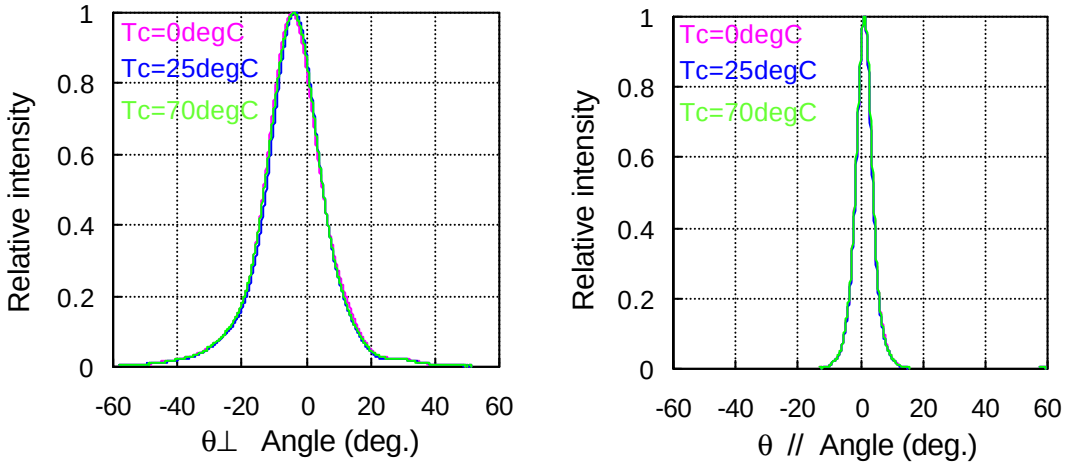


Fig.3 Far field patterns (Po=200mW)

PRELIMINARY

ML8XX4 SERIES

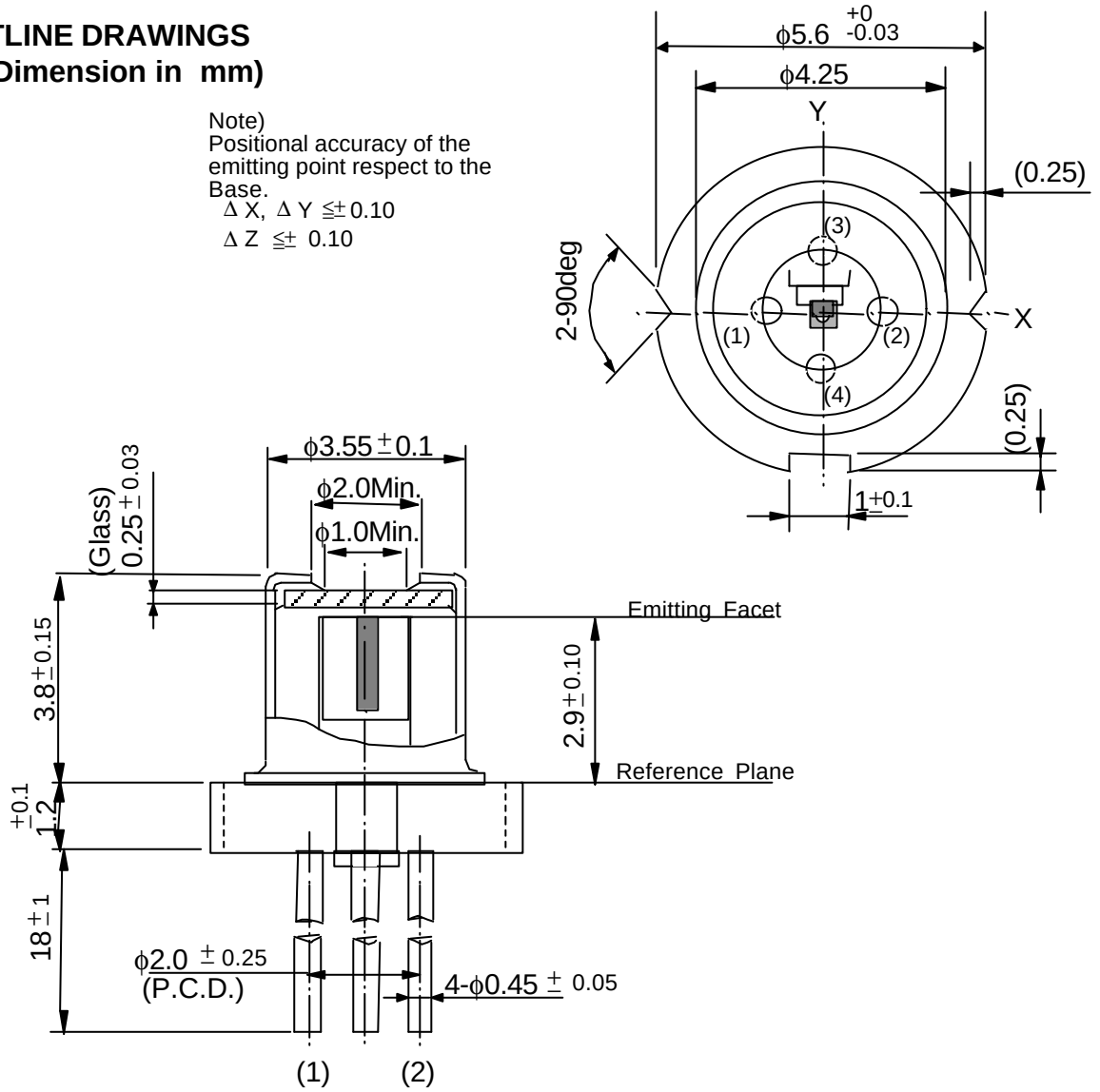
980nm High Power Laser Diode

TYPE NAME

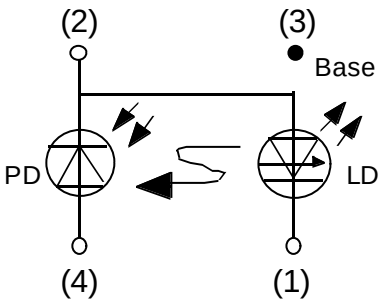
ML8624S-ƒ5.6mm TO-CAN

OUTLINE DRAWINGS
(Dimension in mm)

Note)
Positional accuracy of the emitting point respect to the Base.
$\Delta X, \Delta Y \leqq \pm 0.10$
$\Delta Z \leqq \pm 0.10$



LEAD CONNECTION



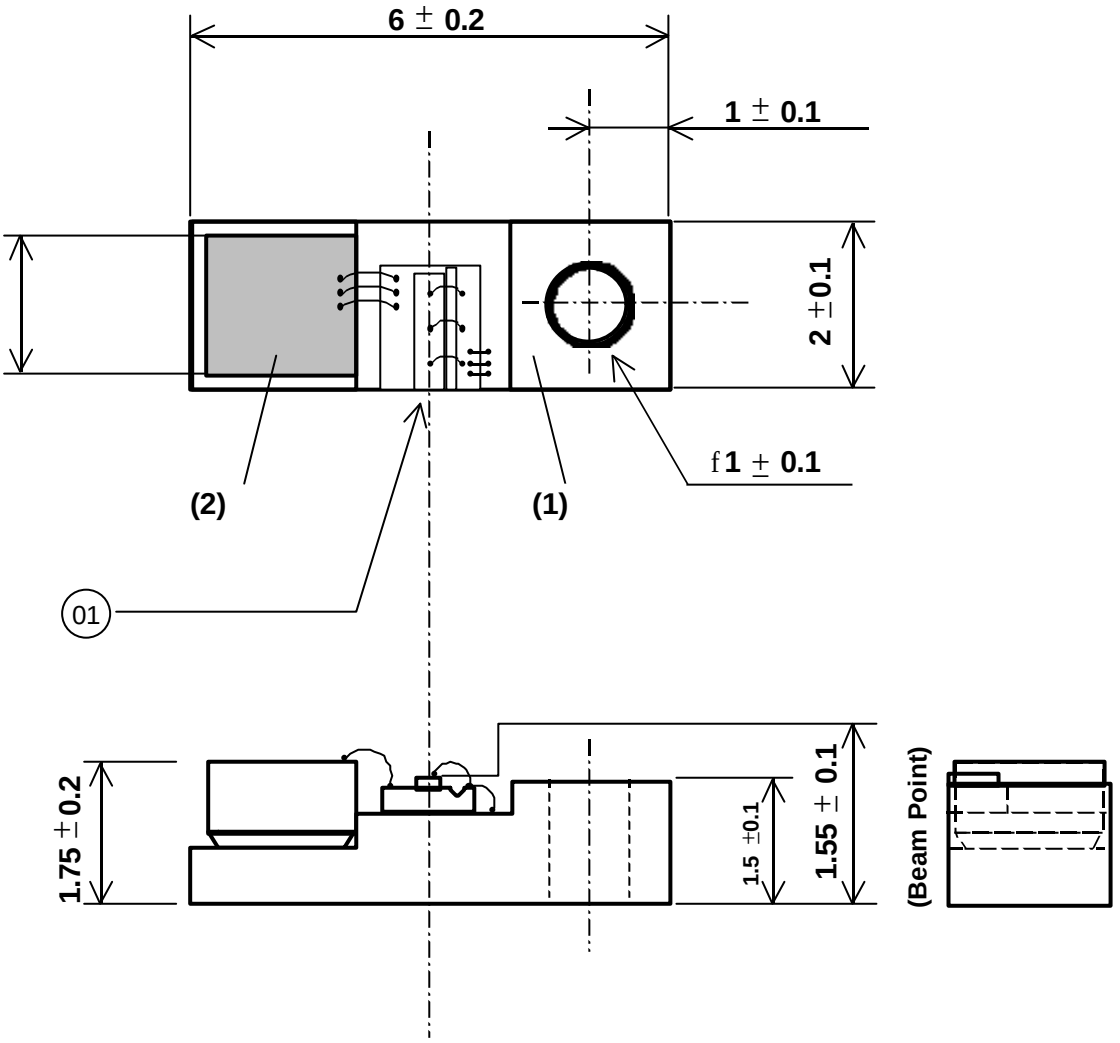
PRELIMINARY

ML8XX4 SERIES

980nm High Power Laser Diode

TYPE NAME: **ML8924**

OUTLINE DRAWINGS (Dimension in mm)



LEAD CONNECTION