ML9XX6 SERIES

InGaAsP - MQW - FP LASER DIODES

TYPE NAME

ML920J6S , ML920K6S
ML925B6F , ML925C6F

DESCRIPTION

ML9XX6 series are InGaAsP laser diodes which provides a stable, single transverse mode oscillation with emission wavelength of 1550nm and standard continuous light output of 5mW.

ML9XX6 are hermetically sealed devices having the photo diode for optical output monitoring. This high performance, high reliability, and long-life laser diode is suitable for such applications as the light sources for long distance optical communication systems.

FEATURES

- 1550nm typical emission wavelength, FP-LDs
- Low threshold current, low operating current
- Wide temperature range operation (Tc=-40 to +85℃)
- High reliability, long operation life
- Have a lens-cap (ML925C6F, ML920K6S)
- MQW* active layer
  * Multiple Quantum Well

APPLICATION

Optical communication system

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings[Note 1]	Unit
Po	Light output power	CW	**6[4]**	mW
VRL	Reverse voltage (laser diode)	-	**2**	V
VRD	Reverse voltage (Photodiode)	-	**20**	V
IFD	Forward current (Photodiode)	-	**2**	mA
Tc	Case temperature	-	**-40 ~ +85**	℃
Tstg	Storage temperature	-	**- 40 ~ +100**	℃

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25℃) [Note 1]

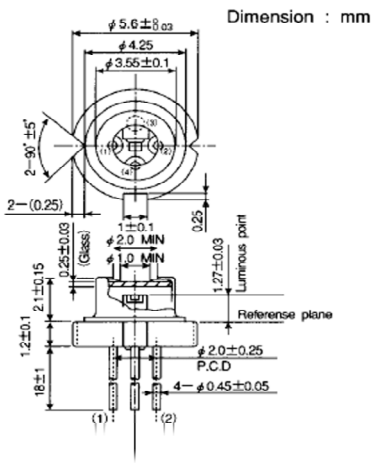
Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Thereshold current	CW	-	**10**	**30**	**mA**
Iop	Operating current	CW,Po=5mW[3mW]	-	**30**	**50**	**mA**
Vop	Operating voltage	CW,Po=5mW[3mW]	-	**1.1**	**1.5**	**V**
η	Slope efficiency	CW,Po=5mW[3mW]	**0.15[0.1]**	**0.25[0.2]**	-	**mW/mA**
λp	Peak wavelength	CW,Po=5mW[3mW]	**1520**	**1550**	**1580**	**nm**
Δλ	Spectral width (RMS)	CW,Po=5mW[3mW]	-	**1.5**	**3**	**nm**
θ//	Beam divergence angle (parallel)	CW,Po=5mW[3mW]	-	**25[11]**	-	**deg.**
θ⊥	Beam divergence angle (perpendicular)	CW,Po=5mW[3mW]	-	**30[11]**	-	**deg.**
tr,tf	Rise and Fall time	If=Ith,Po=5mW[3mW],10 - 90%	-	**0.3**	**0.7**	**ns**
I_m	Monitoring output current	CW,Po=5mW[3mW], V_{RD}=1V	**0.1**	**0.5**	-	**mA**
I_D	Dark current (Photodiode)	V_{RD}=10V	-	**0.01**	**0.1**	**μA**
C_t	Capacitance (Photodiode)	V_{RD}=10V, f=1MHz	-	**10**	**20**	**pF**

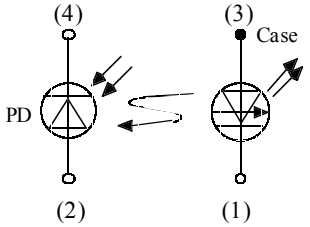
Note 1 : [ ] applied to the lens cap type

OUTLINE DRAWINGS

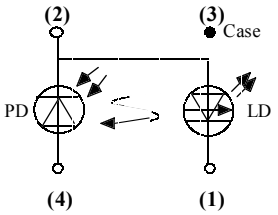
ML920J6S

ML925B6F





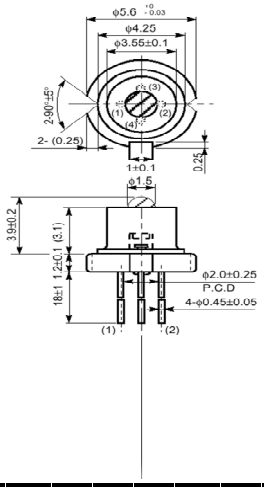
ML925B6F

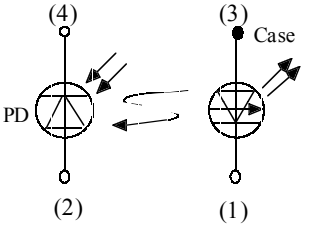


ML920J6S

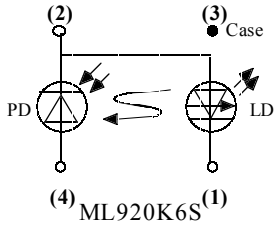
ML920K6S

ML925C6F





ML925C6F



ML920K6S

TYPICAL CHARACTERISTICS

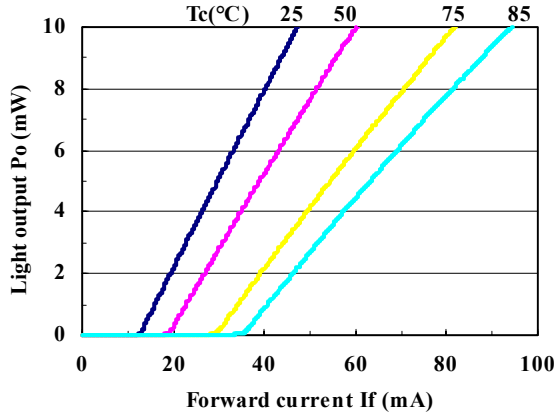


Fig.1 Light output vs. forward current

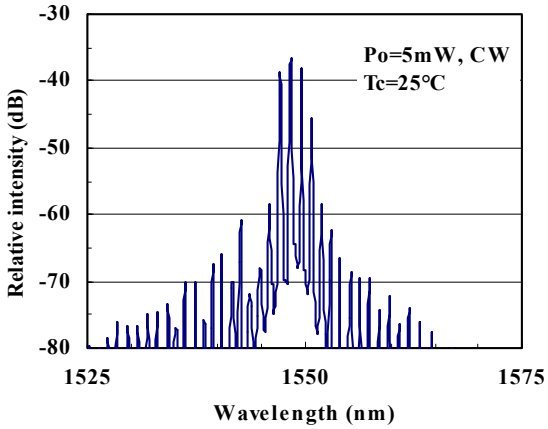


Fig.2 Spectrum

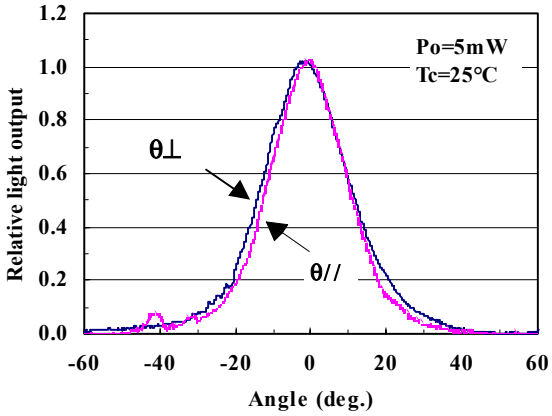


Fig.3 Far field patterns