ML7XX8 SERIES

InGaAsP - MQW - FP LASER DIODES

TYPE NAME

ML701B8R , ML725B8F , ML725C8F
ML720J8S , ML720K8S , ML725J8F

DESCRIPTION

ML7XX8 series are InGaAsP laser diodes which provides a stable, single transverse mode oscillation with emission wavelength of 1310nm and standard continuous light output of 10mW.

ML7XX8 are hermetically sealed devices having the photo diode for optical output monitoring. This high-peformance, high reliability , and long-life laser diode is suitable for such applications as the light sources for long distance optical communication systems.

FEATURES

- 1310nm typical emission wavelength
- Low threshold current, low operating current
- High-power , wide temp. range operation (Po=10mW, Tc=-40 to +85 deg.C)
- Have a lens-cap
  ML725C35F, ML720K35S = ball lens
  ML725J8F = Aspherical lens
- MQW* active layer
  * Multiple Quantum Well

APPLICATION

Optical communication system

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings[Note 1]	Unit
Po	Light output power	-	**10[7]**	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**	deg.C
Tstg	Storage temperature	-	**- 40 ~ +100**	deg.C

ELECTRICAL/OPTICAL CHARACTERISTICS(Tc=25deg.C) [Note 1]

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Thereshold current	CW	-	**5**	**15**	**mA**
Iop	Operating current	CW,Po=5mW	-	**20**	**35**	**mA**
Vop	Operating voltage	CW,Po=5mW	-	**1.1**	**1.5**	**V**
η	Slope efficiency	CW,Po=5mW	**0.3[0.2]**	**0.4[0.3]**	-	**mW/mA**
λp	Peak wavelength	CW,Po=5mW	**1290**	**1310**	**1330**	**nm**
Δλ	Spectral width (RMS)	CW,Po=5mW	-	**1**	**2**	**nm**
θ//	Beam divergence angle (parallel)	CW,Po=5mW	-	**25[11]**	-	**deg.**
θ⊥	Beam divergence angle (perpendicular)	CW,Po=5mW	-	**30[11]**	-	**deg.**
tr,tf	Rise and Fall time	If=Ith,Po=5mW,10 - 90%	-	**0.3**	**0.7**	**ns**
I_m	Monitoring output current	CW,Po=5mW, V_{RD}=1V	**0.1**	**0.5**	-	**mA**
I_D	Dark current (Photodiode)	V_{RD}=10V	-	**0.01**	**0.1**	**μA**
Ct	Capacitance (Photodiode)	V_{RD}=10V, f=1MHz	-	**10**	**20**	**pF**
Pf (Note 2)	Fiber coupled power	CW , Po=5mW , S|10/125	**[0.4/1.5]**	**[0.8/2.0]**	**[---]**	**mW**
Df (Note 2)	Fiber coupled distance	CW , Po=5mW , S|10/125 (Note 3)	**[5.0/6.0]**	**[5.8/7.5]**	**[6.2/9.0]**	**mm**

Note 1 : [ ] applied to the lens cap type

Note 2 : Pf, Df are applied to the [ball lens type/aspherical lens type]

Note 3 : Df is a distance from the reference plane to the fiber.

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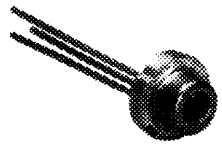
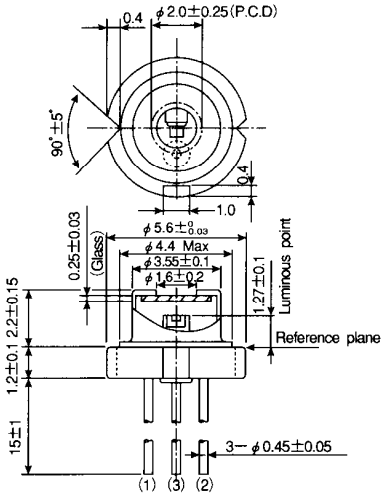
InGaAsP —MQW—FP LASER DIODES

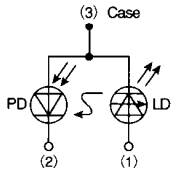
OUTLINE DRAWINGS

ML701B8R

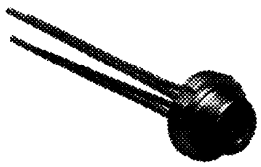


Dimension : mm





ML725B8F
ML720J8S



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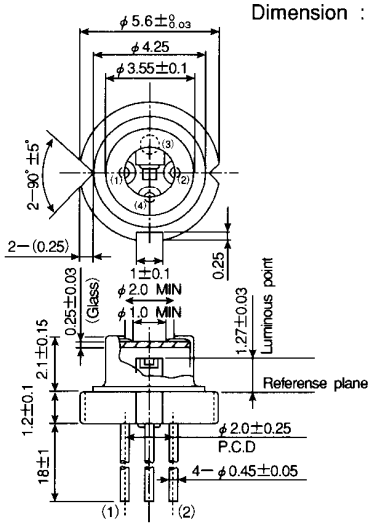
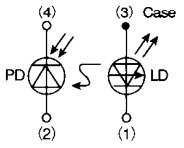
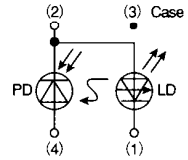


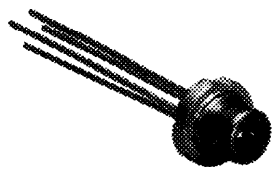


ML725B8F



ML720J8S

ML725C8F
ML720K8S



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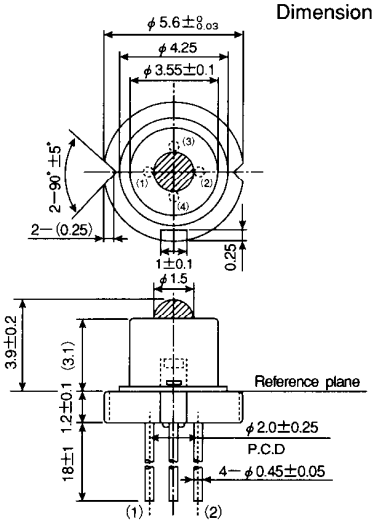
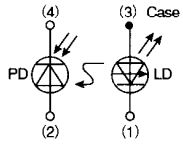
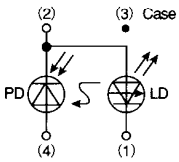




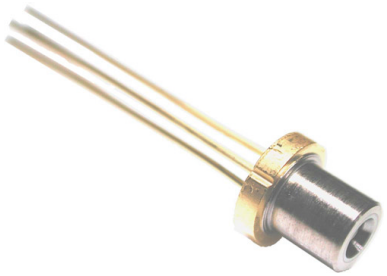
ML725C8F

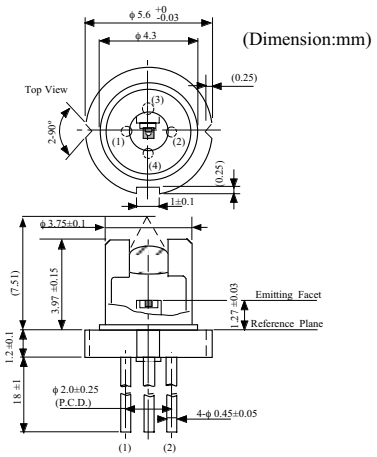


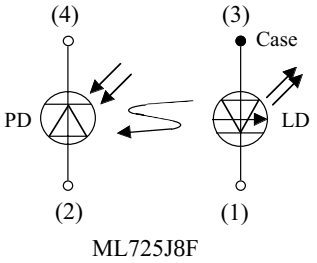
ML720K8S

OUTLINE DRAWINGS

ML725J8F







ML725J8F

TYPICAL CHARACTERISTICS

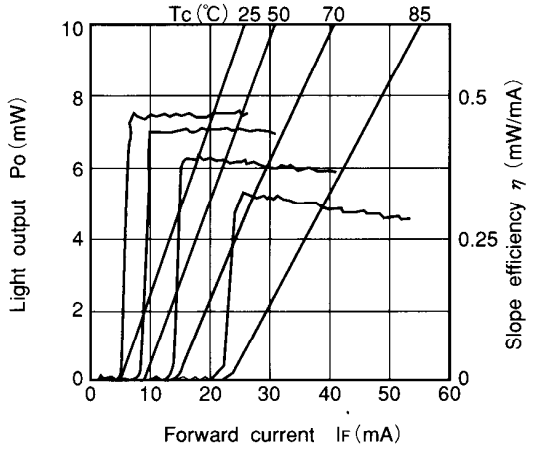


Fig.1 Light output vs. forward current

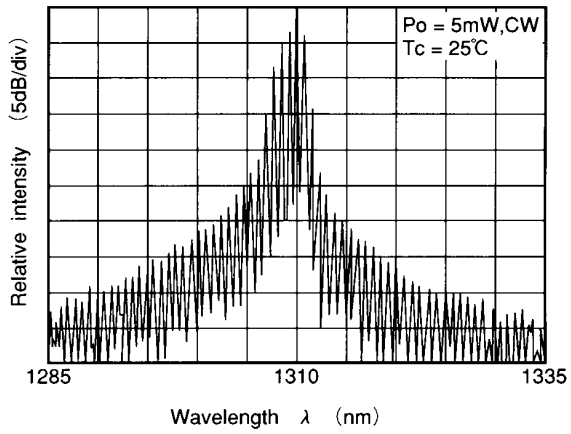


Fig.52 Spectrum

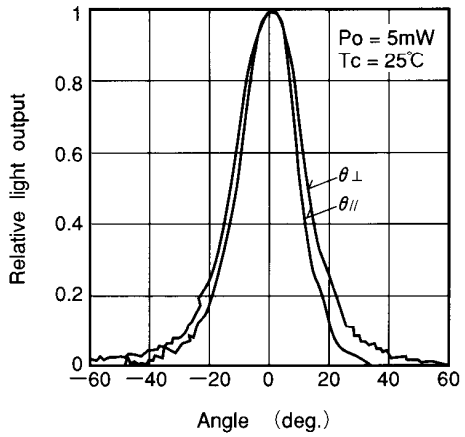
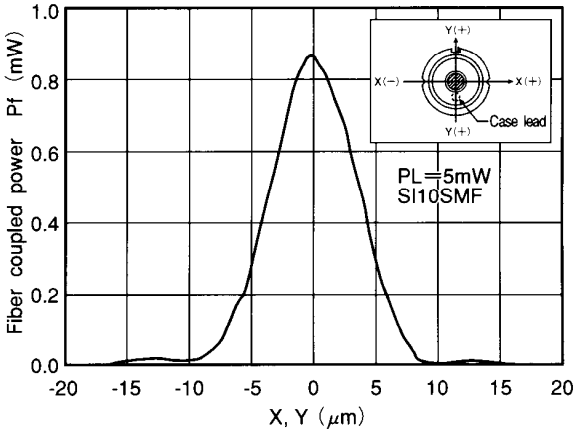


Fig.3 Far field pattern



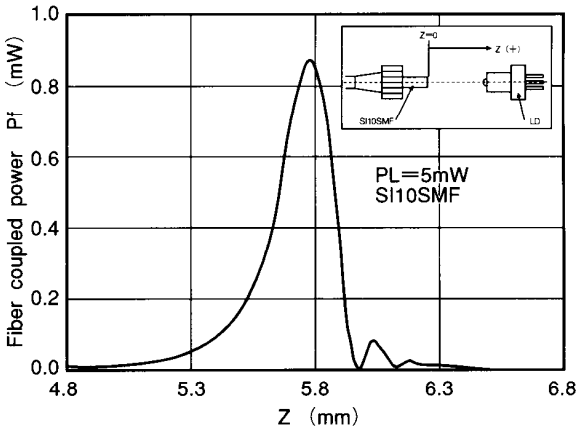


Fig.4 Fiber coupling characteristics
(ML725C8F,ML720K8S)