

MITSUBISHI LASER DIODES

ML7xx19 SERIES

1310nm InGaAsP FP LASER DIODES

Notice: Some parametric limits are subject to change.

TYPE NAME

**ML720J19S, ML720K19S, ML728C19S
ML725B19F, ML725C19F**

DESCRIPTION

ML7XX19 series are InGaAsP laser diodes which provide a stable, single transverse mode oscillation with emission wavelength of 1310nm and standard continuous light output of 5mW.

ML7XX19 are hermetically sealed devices having the photo diode for optical output monitoring. This is suitable for such applications as the light sources for optical communication systems up to 2.5Gbps transmission applications.

FEATURES

- 1310nm typical emission wavelength, FP-LDs
- Wide temperature range operation(-40 to 85°C)
- φ5.6mm TO-CAN package
Flat window cap : ML720J19S, ML725B19F
Ball lens cap : ML720K19S, ML725C19F
- φ3.8mm TO-CAN package
Ball lens cap : ML728C19S

APPLICATION

- Optical communication system

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	10[7]	mW
VRL	Laser reverse voltage	-	2	V
VRD	PD reverse voltage	-	20	V
IFD	PD forward current	-	2	mA
Tc	Operation temperature	-	-40 to +85	°C
Tstg	Storage temperature	-	-40 to +100	°C

ELECTRICAL/OPTICAL CHARACTERISTICS(Tc=25°C)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Ith	Threshold current	CW	3	5	15	mA
Iop	Operation current	CW, Po=5mW[3mW]	10	20	30	mA
Vop	Operating voltage	CW, Po=5mW[3mW]	---	1.1	1.5	V
η	Slope efficiency	CW, Po=5mW[3mW]	0.3[0.2]	0.45[0.35]	0.6[0.5]	mW/mA
λc	Center wavelength	CW, Po=5mW[3mW]	1290	1310	1330	nm
Δλ	Spectral Width	CW, Po=5mW[3mW],RMS(-20dB)	---	1.0	2.0	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 (20%-80%)	Ib=Ith,Po=5mW[3mW],20-80%	---	0.1	0.15	nsec
Im	Monitor Current (PD)	CW, Po=5mW[3mW], VRD=1V,	0.1	0.5	0.9	mA
Id	Dark Current (PD)	VRD=10V	---	---	0.1	μA
Ct	Capacitance (PD)	VRD=10V, f=1MHz	---	10	20	pF
Pf <2>	Fiber Coupling characteristics at peak coupling <3>	CW, PL=3mW,S110/125	0.2	0.5	---	mW
Df <2>		ML720K19S	5.0	5.8	6.2	mm
		ML728C19S	3.0	3.4	3.8	

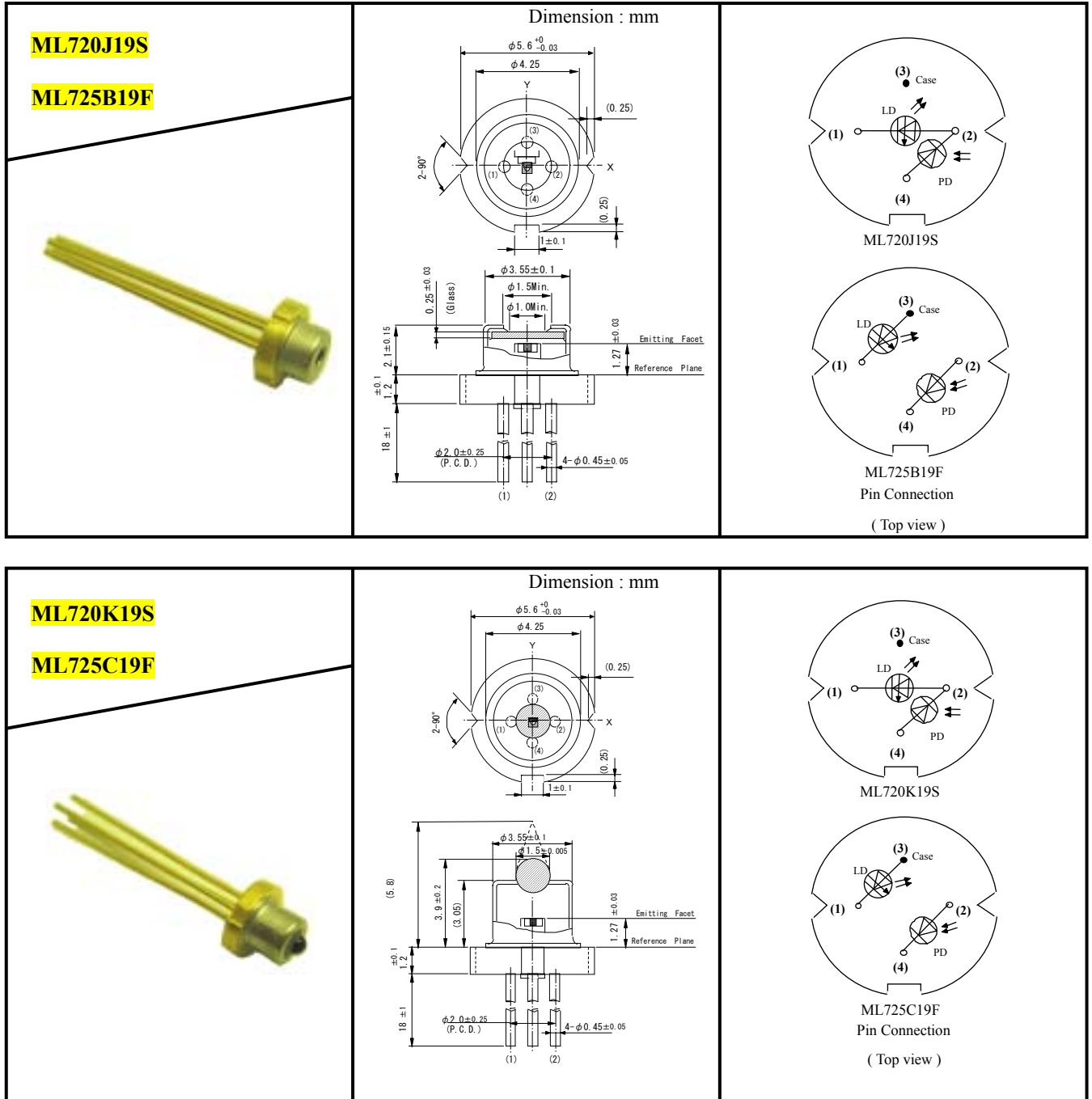
Note : <1> [] applied to the lens cap type.

Note : <2> Pf, Df are applied to the ball lens type.

Note : <3> Df is a distance between reference plane of the base to the fiber.

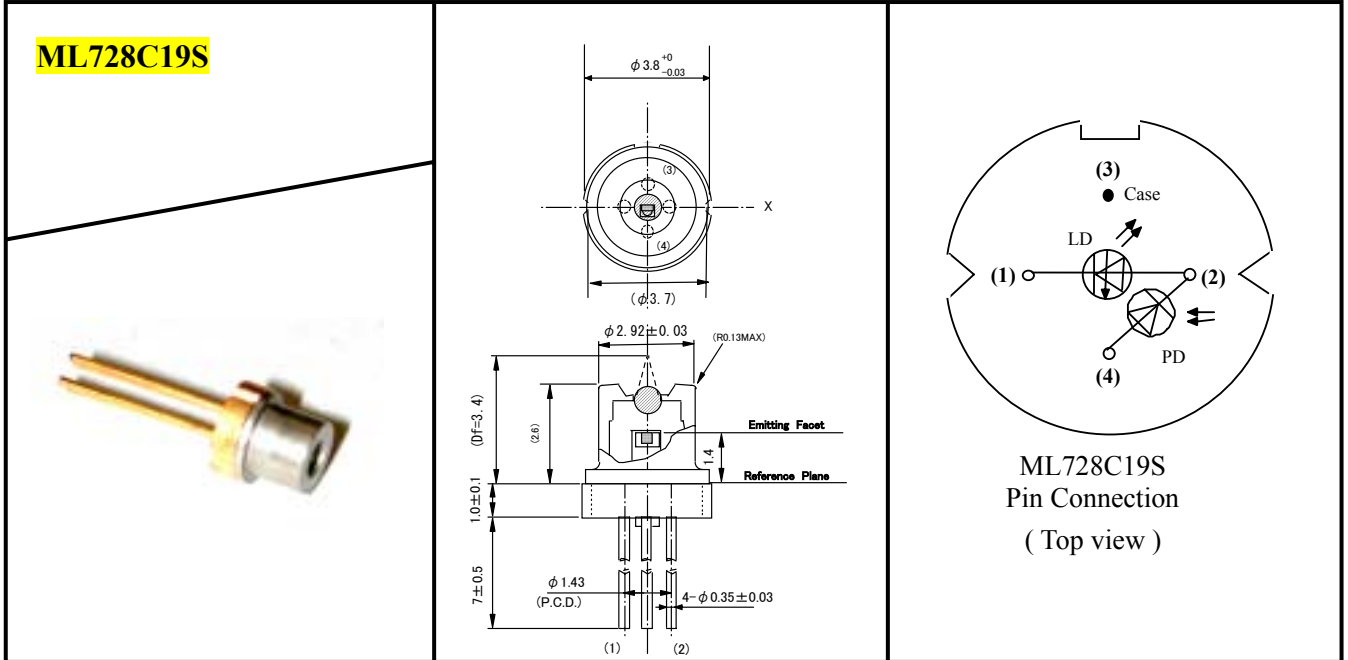
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OUTLINE DRAWINGS



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TYPICAL CHARACTERISTICS

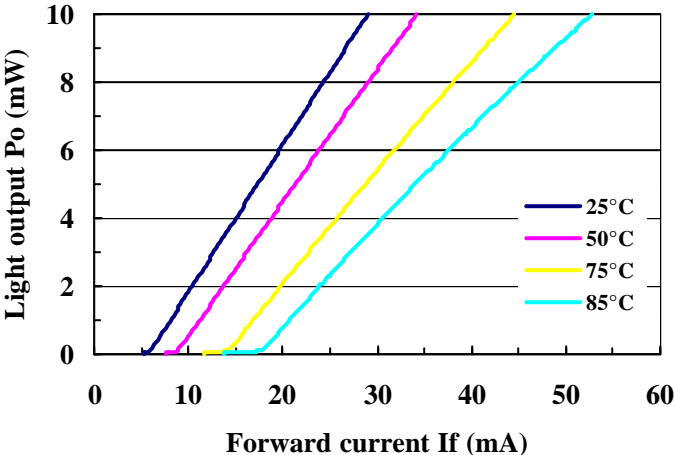


Fig. 1 Light output v.s. forward current

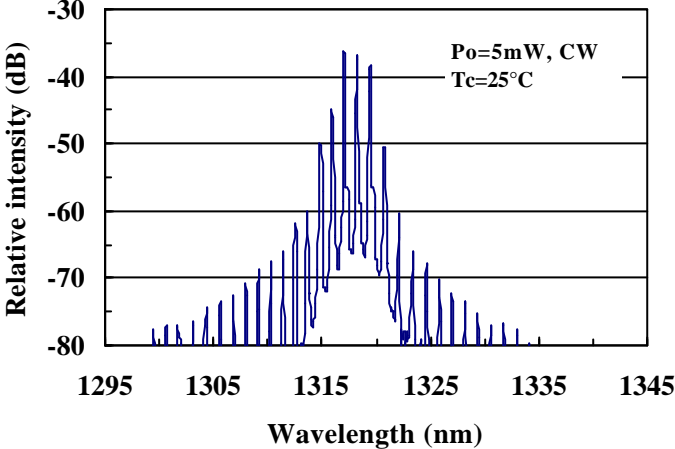


Fig. 2 Spectrum

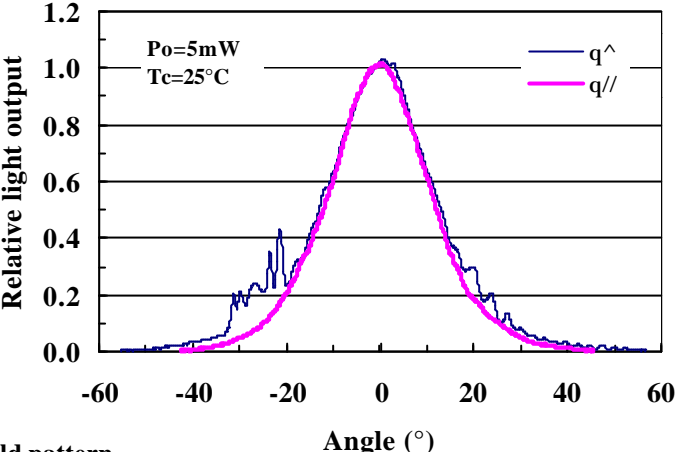


Fig. 3 Far field pattern