PRELIMINARY

Notice: This is not a final specification.
Notice : Some parametric limits are subject to change

ML7XX34 SERIES

2.5Gbps InGaAsP DFB LASER DIODE

TYPE NAME

ML725B34F / ML720J34S
ML725J34F / ML720L34S

DESCRIPTION

ML7XX34 series are uncooled DFB (Distributed Feedback) laser diodes for 2.5Gbps transmission emitting light beam at 1310nm. ML7XX34 can operate in the wide temperature range from -40°C to 95 °C without any temperature control.

APPLICATION

2.5Gbps transmission

FEATURES

- Wide temperature range operation (-40°C to 95°C)
- High side-mode-suppression-ratio (typical 40dB)
- High resonance frequency (typical 11GHz)

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Po	Output power	CW	10	mW
If	Forward current (Laser diode)	---	150	mA
V_{RL}	Reverse voltage (Laser diode)	---	2	V
I_{FD}	Forward current (Photo diode)	---	2	mA
V_{RD}	Reverse voltage (Photo diode)	---	20	V
Tc	Case temperature	---	-40 to +95	°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	---	7	12	mA
		CW, Tc=95°C	---	30	40	
Iop	Operation current	CW, Po=5mW	---	24	40	mA
		CW, Po=5mW , Tc=95°C	---	60	75	
Vop	Operating voltage	CW, Po=5mW	---	1.1	1.5	V
η	Slope efficiency	CW, Po=5mW	0.30	0.36	---	mW/mA
λp	Peak wavelength	CW, Po=5mW, Tc=-40 to 95°C	1290	1310	1330	nm
SMSR	Side mode suppression ratio	CW, Po=5mW, Tc=-40 to 95°C	35	40	---	dB
θ //	Beam divergence angle (parallel) <*1>	CW, Po=5mW	---	30	---	deg.
θ ⊥	(perpendicular) <*1>	CW, Po=5mW	---	35	---	deg.
fr	Resonance frequency	2.48832Gbps,Ib=Ith, Ipp=40mA	---	11	---	GHz
tr,tf	Rise and Fall time <*2>	2.48832Gbps,Ib=Ith, Ipp=40mA 20%-80%	---	80	120	ps
Im	Monitoring output current (PD)	CW, Po=5mW,VRD=1V,RL=10Ω	0.05	0.3	2.0	mA
Id	Dark current (PD)	V_{RD}=5V	---	---	0.1	μA
Ct	Capacitance (PD)	V_{RD}=5V	---	10	20	pF

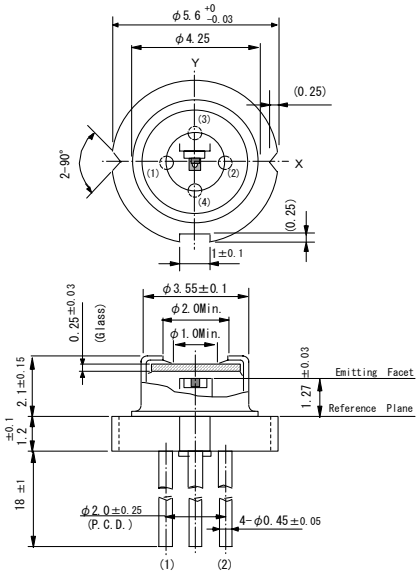
<*1> Beam divergence is not applied to ML725J34F and ML720L34S.
<*2> Except influence of the 18mm lead.

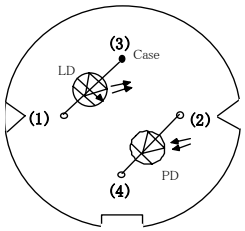
Notice : Some parametric limits are subject to change

OUTLINE DRAWINGS

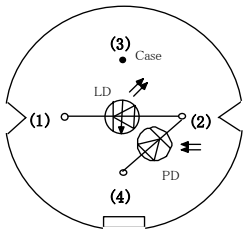
ML725B34F
ML720J34S

Dimensions : mm





ML725B34F

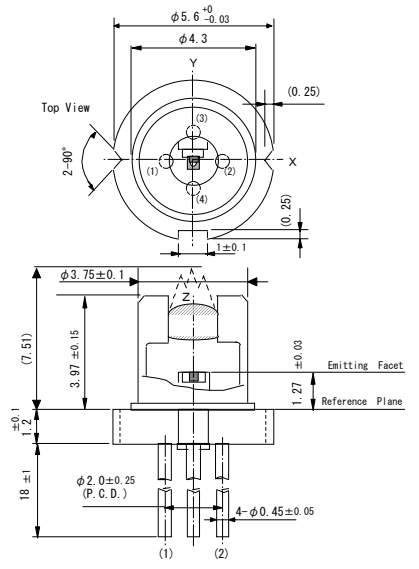


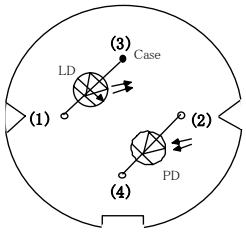
ML720J34S

Pin Connection
(Top view)

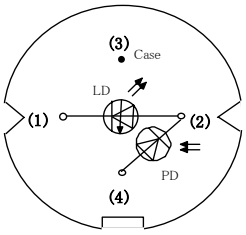
ML725J34F
ML720L34S

Dimensions : mm





ML725J34F



ML720L34S

Pin Connection
(Top view)