

MITSUBISHI LASER DIODES
ML7XX11 SERIES

Notice: Some parametric limits are subject to change

InGaAsP DFB LASER DIODES

**TYPE
NAME**

ML725B11F / ML720J11S

DESCRIPTION

ML7XX11 series are DFB (Distributed Feedback) laser diodes emitting light beam with emission wavelength of 1275 ~ 1350nm. They are well suited for light source in long-distance digital transmission application of coarse WDM. They are hermetically sealed devices with th photodiode for optical output monitoring.

APPLICATION

- Long - distance digital transmission system
- Coarse WDM application

FEATURES

- Low threshold current (typical 6mA)
- Wide temperature range operation
- High - side mode suppression ratio (typical 40dB)
- High speed response (typical 110psec)
- MQW* active layer
- FSBH** structure fabricated by MOCVD process
 - * Multiple Quantum Well
 - ** Facet Selective - growth Buried Hetero structure

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	6	mW
Iop	Operating current	-	150	mA
VRL	Reverse voltage (Laser diode)	-	2	V
VRD	Reverse voltage (Photo diode)	-	20	V
IFD	Forward current (Photo diode)	-	2	mA
Tc	Case temperature	-	0 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	-	6	20	mA
Iop	Operation current	CW, Po=5mW	-	18	40	mA
Vop	Operating voltage	CW, Po=5mW	-	1.1	1.8	V
η	Slope efficiency	CW, Po=5mW	0.3	0.4	-	mW/mA
λp	Peak wavelength	CW, Po=5mW, Tc=0 ~ 85°C	<*2>			nm
θ//	Beam divergence angle (parallel)	CW, Po=5mW	-	25	35	deg.
θ⊥	Beam divergence angle (perpendicular)	CW, Po=5mW	-	30	40	deg.
SMSR	Side mode suppression ratio	CW, Po=5mW, Tc=0 ~ 85°C	30	40	-	dB
		3Gbps, Ib=Ith, Imod=40mA	30	-	-	
tr	Rise time	622Mbps, Ib=Ith, 10 - 90% short lead pin	-	60	-	psec
tf	Fall time		-	110	-	
TE	Tracking error	CW, APC Im(25°C)=5mW TE=10log(Po(Tc)/Po(25°C)) Tc= 0 to +85°C	-1.0	-	+1.0	dB
Im	Monitor current (PD)	CW, Po=5mW, VRD=1V RL=10 ohm <*1>	0.05	0.2	-	mA
Id	Dark current (PD)	VRD=5V	-	-	1.0	mA
Cd	Capacitance (PD)	VRD=5V, f=1MHz	-	10	20	pF

<*1> RL is load resistance of the photo diode.

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<*2> Peak wave length

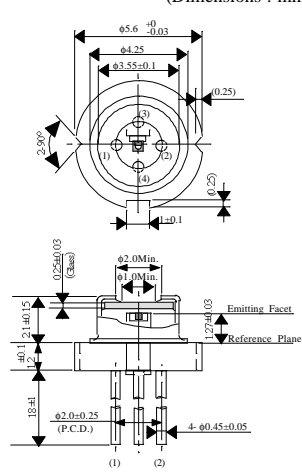
Type	Symbol	Test condition	Limits			Unit
			Min.	Typ.	Max.	
ML725B11F-04 / ML720J11S-04	λ_p	CW Po=5mW Tc=0 ~ +85°C	1269.0	1275.7	1282.4	nm
ML725B11F-05 / ML720J11S-05			1293.5	1300.2	1306.9	
ML725B11F-06 / ML720J11S-06			1318.0	1324.7	1331.4	
ML725B11F-07 / ML720J11S-07			1342.5	1349.2	1355.9	

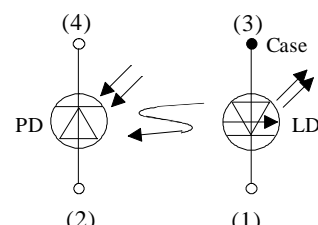
OUTLINE DRAWINGS

ML725B11F




(Dimensions : mm)





ML720J11S



(Dimensions : mm)

