ML9xx40 SERIES

Notice: Some parametric limits are subject to change

2.5Gbps InGaAsP DFB LASER DIODE

TYPE NAME

ML925B40F / ML920J40S

DESCRIPTION

ML9XX40 series are uncooled DFB (Distributed Feedback) laser diodes for 2.5Gbps transmission emitting light beam at 1550nm. λ/4 shifted grating structure is employed to obtain excellent SMSR performance under 2.5Gbps modulation. Furthermore, ML9xx40 can operate in the wide temperature range from 0ºC to 85 ºC without any temperature control. They are well suited for light source in long distance digital transmission application.

FEATURES

· λ/4 shifted grating structure
· Wide temperature range operation (0ºC to 85ºC)
· High side-mode-suppression-ratio (typical 45dB)
· High resonance frequency (typical 11GHz)

APPLICATION

· 2.5Gbps long-haul transmission

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Po	Output power	CW	6	mW
IF	Laser forward current	-	200	mA
VRL	Laser reverse voltage	-	2	V
IFD	PD forward current	-	2	mA
VRD	PD reverse voltage	-	20	V
Tc	Operation temperature	-	0 to +85	ºC
Tstg	Storage temperature	-	-40 to +100	ºC

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25ºC)

Symbol	Parameter	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Ith	Threshold current	CW	---	10	15	mA
		CW, Tc=85ºC	---	35	40	
Iop	Operation current	CW, Po=5mW	---	35	45	mA
		CW, Po=5mW, Tc=85ºC	---	70	80	
Vop	Operating voltage	CW, Po=5mW	---	1.1	1.5	V
h	Slope efficiency	CW, Po=5mW	0.17	0.22	---	mW/mA
lp	Peak wavelength	CW, Po=5mW, Tc=0 to 85ºC	1530	1550	1570	nm
SMSR	Side mode suppression ratio	CW, Po=5mW, Tc=0 to 85ºC	35	45	---	dB
	Side mode suppression ratio(RF)	2.48832Gbps, Ib=Ith, Ipp=40mA	---	45	---	dB
θ//	Beam divergence angle (parallel)	CW, Po=5mW	---	30	---	deg.
θ⊥	(perpendicular)	CW, Po=5mW	---	35	---	
fr	Resonance frequency	2.48832Gbps, Ib=Ith, Ipp=40mA	---	11	---	GHz
tr , tf	Rise and Fall time	2.48832Gbps, Ib=Ith, Ipp=40mA 20%-80%	---	80	120	psec
Im	Monitoring current (PD)	CW, Po=5mW, VRD=1V, RL=10Ω	0.1	---	1.0	mA
Id	Dark current (PD)	VRD=5V	---	---	0.1	μA
Ct	Capacitance (PD)	VRD=5V, f=1MHz	---	10	20	pF

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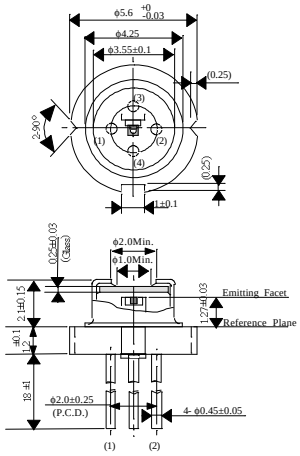
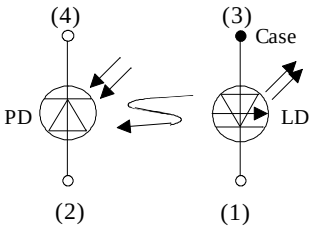
OUTLINE DRAWINGS

ML925B40F

(Dimensions : mm)





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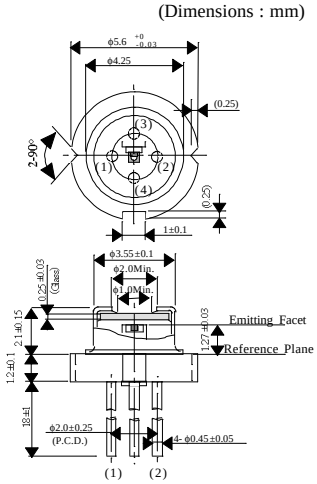
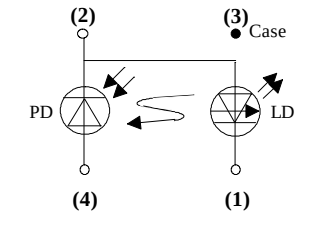
(Dimensions : mm)





ML920J40S