ML9XX43 SERIES

Notice : Some parametric limits are subject to change

2.5Gbps InGaAsP DFB LASER DIODE

TYPE NAME

ML925B43F / ML920J43S
ML925J43F / ML920L43S

DESCRIPTION

ML9XX43 series are uncooled DFB (Distributed Feedback) laser diodes for 2.5Gbps transmission emitting light beam at 1550nm. ML9xx43 can operate in the wide temperature range from -20°C to 95 °C without any temperature control. They are well suited for light source in long distance digital transmission application.

APPLICATION

2.5Gbps long-haul transmission

FEATURES

- Wide temperature range operation (-20°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	---	-20 to +95	°C
Tstg	Storage temperature	---	-40 to +100	°C

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C)

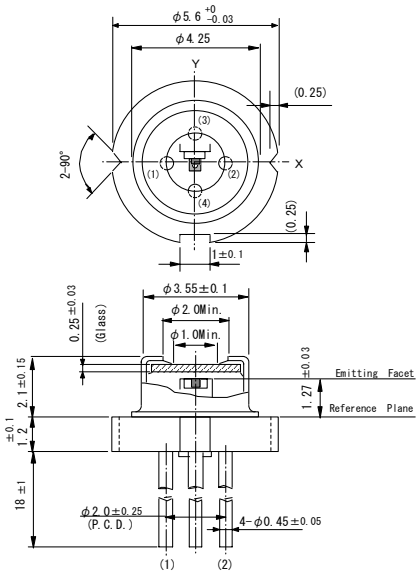
Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
Ith	Threshold current	CW	---	10	15	mA
		CW, Tc=95°C	---	35	50	
Iop	Operation current	CW, Po=5mW	---	25	40	mA
		CW, Po=5mW , Tc=95°C	---	70	80	
Vop	Operating voltage	CW, Po=5mW	---	1.1	1.5	V
η	Slope efficiency	CW, Po=5mW	0.20	0.28	---	mW/mA
λp	Peak wavelength	CW, Po=5mW, Tc=-20 to 95°C	1530	1550	1570	nm
SMSR	Side mode suppression ratio	CW, Po=5mW, Tc=-20 to 95°C	35	40	---	dB
θ //	Beam divergence angle (parallel) <*1>	CW, Po=5mW	---	25	---	deg.
θ ⊥	(perpendicular) <*1>	CW, Po=5mW	---	35	---	deg.
fr	Resonance frequency	2.48832Gbps,Ib=Ith, Ipp=30mA	---	11	---	GHz
tr,tf	Rise and Fall time <*2>	2.48832Gbps,Ib=Ith, Ipp=30mA 20%-80%	---	80	120	ps
Im	Monitoring output current (PD)	CW, Po=5mW,VRD=1V,RL=10Ω	0.05	0.2	2.0	mA
Id	Dark current (PD)	V_{RD}=5V	---	---	0.1	μA
Ct	Capacitance (PD)	V_{RD}=5V	---	10	20	pF

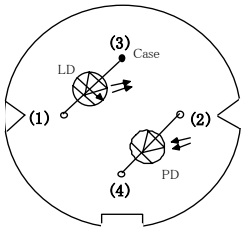
<*1> Beam divergence is not applied to ML925J43F and ML920L43S.
<*2> Except influence of the 18mm lead.

OUTLINE DRAWINGS

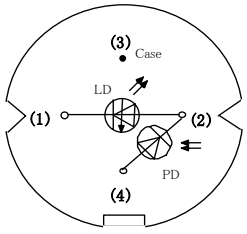
ML925B43F
ML920J43S

Dimensions : mm





ML925B43F

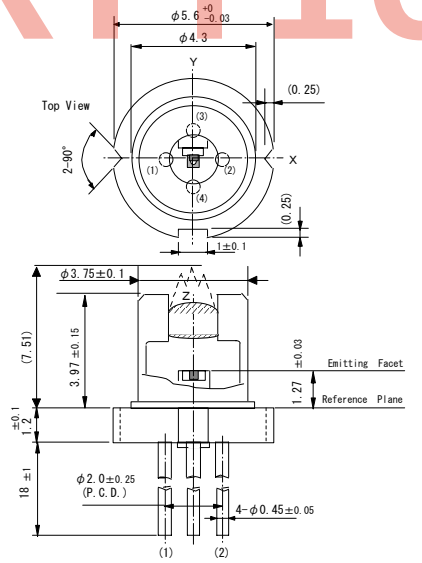


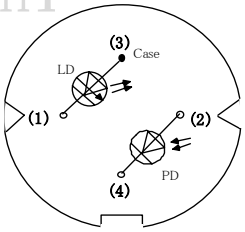
ML920J43S

Pin Connection
(Top view)

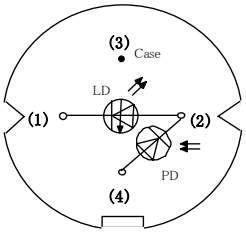
ML925J43F
ML920L43S

Dimensions : mm





ML925J43F



ML920L43S

Pin Connection
(Top view)