

MITSUBISHI LASER DIODES
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
P _o	Output power	CW	10	mW
I _f	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
T _c	Case temperature	---	-20 to +95	°C
T _{stg}	Storage temperature	---	-40 to +100	°C

ELECTRICAL/OPTICAL CHARACTERISTICS (T_c=25°C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I _{th}	Threshold current	CW	---	10	15	mA
		CW, T _c =95°C	---	35	50	
I _{op}	Operation current	CW, P _o =5mW	---	25	40	mA
		CW, P _o =5mW, T _c =95°C	---	70	80	
V _{op}	Operating voltage	CW, P _o =5mW	---	1.1	1.5	V
η	Slope efficiency	CW, P _o =5mW	0.20	0.28	---	mW/mA
λ _p	Peak wavelength	CW, P _o =5mW, T _c =-20 to 95°C	1530	1550	1570	nm
SMSR	Side mode suppression ratio	CW, P _o =5mW, T _c =-20 to 95°C	35	40	---	dB
θ _{//}	Beam divergence angle (parallel) <*1>	CW, P _o =5mW	---	25	---	deg.
θ _⊥	(perpendicular) <*1>	CW, P _o =5mW	---	35	---	deg.
f _r	Resonance frequency	2.48832Gbps, I _b =I _{th} , I _{pp} =30mA	---	11	---	GHz
t _r , t _f	Rise and Fall time <*2>	2.48832Gbps, I _b =I _{th} , I _{pp} =30mA 20%-80%	---	80	120	ps
I _m	Monitoring output current (PD)	CW, P _o =5mW, V _{RD} =1V, R _L =10Ω	0.05	0.2	2.0	mA
I _d	Dark current (PD)	V _{RD} =5V	---	---	0.1	μA
C _t	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.

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OUTLINE DRAWINGS

