ML9XX41 SERIES

Notice: Some parametric limits are subject to change.

InGaAsP DFB-LASER DIODE WITH EA MODULATOR

TYPE NAME **ML9SM41**

DESCRIPTION

ML9XX41 series are DFB (Distributed Feedback) laser diodes with a monolithically integrated EA modulator, suitable light source for 10Gbps application.
ML9SM41 is supplied with the chip-on-carrier type package.

FEATURES

- Dispersion penalty less than 2dB at 9.95328Gbps, +1600ps/nm
- High extinction ratio (Min. 10dB at 9.95328Gbps)
- High - side mode suppression ratio (Typ. 40dB)
- High speed response (Typ. 30psec)

APPLICATION

10Gbps transmission system

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
I_F	Forward current (Laser diode)	CW	150	mA
V_{RL}	Reverse voltage (Laser diode)	-	2	V
V_{EA}	Reverse voltage (Modulator)	-	-3	V
Tc	Case temperature	-	+25 to +40	degC
Tstg	Storage temperature	-	-40 to +100	degC

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=35degC)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Ith	Threshold current	CW, Vmod=0V	---	15	30	mA
Iop	Operation current	CW, Po=6.5mW, Vmod=0V	---	85	100	mA
Vop	Operating voltage	CW, Po=6.5mW, Vmod=0V	---	1.6	1.8	V
λp	Peak wavelength	CW, If=Iop, Vmod=0V	1530	---	1565	nm
θ//	Beam divergence angle (parallel)	CW, Po=6.5mW, Vmod=0V	---	30	---	deg.
θ⊥	Beam divergence angle (perpendicular)	CW, Po=6.5mW, Vmod=0V	---	42	---	deg.
Pm	Monitoring output power	CW, Po=6.5mW, Vmod=0V	---	2.0	---	mW
fc	Cut off frequency	CW, If=Iop, Vmod=-1V	10	14	---	GHz
tr,tf	Rise and fall time (20%-80%)	9.95328Gbps, NRZ, PRBS 2^{23}-1	---	---	30	psec
SMSR	Side mode suppression ratio	If=Iop, Vpp=2V,	35	40	---	dB
Ex	Extinction ratio	Voffset=0 to -1.0V	10	---	---	dB
Pp	Dispersion penalty	ditto +1600ps/nm @BER=10-10	---	---	2.0	dB

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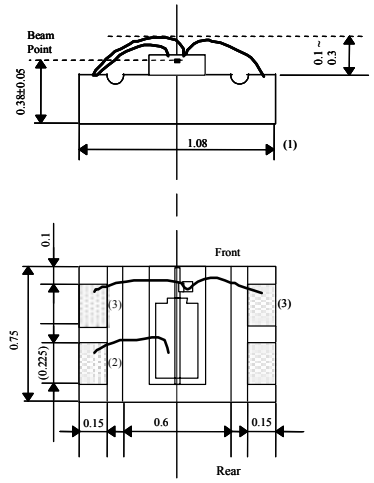
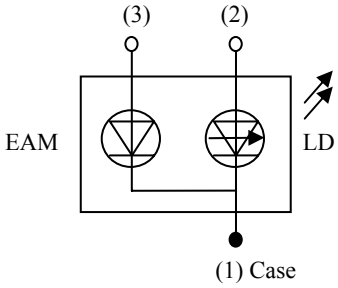
OUTLINE DRAWINGS

ML9SM41





ML9SM41

*) The LD and EAM cathode is contacted with the back side of the carrier.