ML9XX18 SERIES

InGaAsP DFB-LASER DIODE WITH EA MODULATOR

TYPE NAME **ML9SM18**

DESCRIPTION

ML9XX18 series are 10Gbps DFB (Distributed Feedback) laser diodes with a monolithically integrated EA modulator at the wavelength of 1550nm.
ML9xx18 is a suitable light source for 10Gbps transmission, which is applicable to various distances from short reach (SR) to intermediate reach (IR).
ML9SM18 is supplied with the chip-on-carrier type package.

APPLICATION

Long distance 10Gbps transmission system

FEATURES

- Available distance :2km, 25km, 50km
- High extinction ratio (Typ. 11dB)
- High - side mode suppression ratio (Typ. 40dB)
- High speed response (Typ. 30psec)

***Specification Note

Type	Available Distance
ML9SM18-01	50km
ML9SM18-02	25km
ML9SM18-03	2km

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
IF	Forward current (Laser diode)	CW	200	mA
VRL	Reverse voltage (Laser diode)	-	2	V
VEA	Reverse voltage (Modulator)	-	-3	V
Tc	Case temperature	-	+15 to +35	degC
Tstg	Storage temperature	-	-40 to +100	degC

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25degC)

Symbol	Parameter	Test conditions			Min.	Typ.	Max.	Unit
Ith	Threshold current	CW,Vmod=0V			-	10	30	mA
Iop	Operation current	CW,Po=5mW,Vmod=0V			-	70	100	mA
Vop	Operating voltage	CW,Po=5mW,Vmod=0V			-	1.2	2.0	V
λp	Peak wavelength	CW,Po=5mW,Vmod=0V			1530	1550	1565	nm
θ//	Beam divergence angle (parallel)	CW,Po=5mW,Vmod=0V			-	30	-	deg.
θ⊥	Beam divergence angle (perpendicular)	CW,Po=5mW,Vmod=0V			-	45	-	deg.
Pm	Monitoring output current	CW,Po=5mW,Vmod=0V			-	1.0	-	mW
fc	Cut off frequency	CW,Po=5mW Vmod=-1V			10	14	-	GHz
tr,tf	Rise and Fall time (10%-90%)	9.95328Gbps,NRZ,PRBS 2^{23}-1			-	30	40	psec
SMSR	Side mode suppression ratio	If=Iop,Vpp=2.5V, Vmod(offset)=0 to -1.0V, 10^{-10} BER			35	40	-	dB
Ex	Extinction Ratio				10	11	-	dB
Pp	Dispersion Penalty	ditto SMF @BER=10^{-10}	-01	50km	-	-	2.0	dB
			-02	25km	-	-	2.0	dB
			-03	2km	-	-	2.0	dB

MITSUBISHI ELECTRIC

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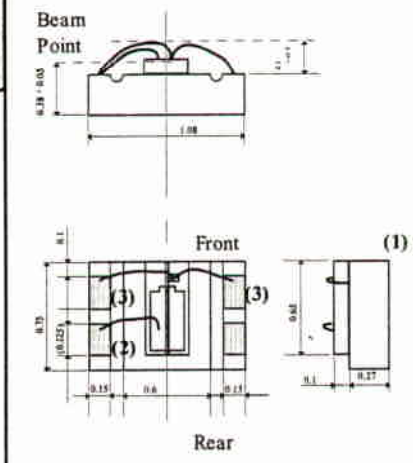
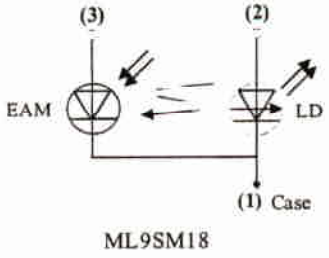
OUTLINE DRAWINGS

ML9SM18



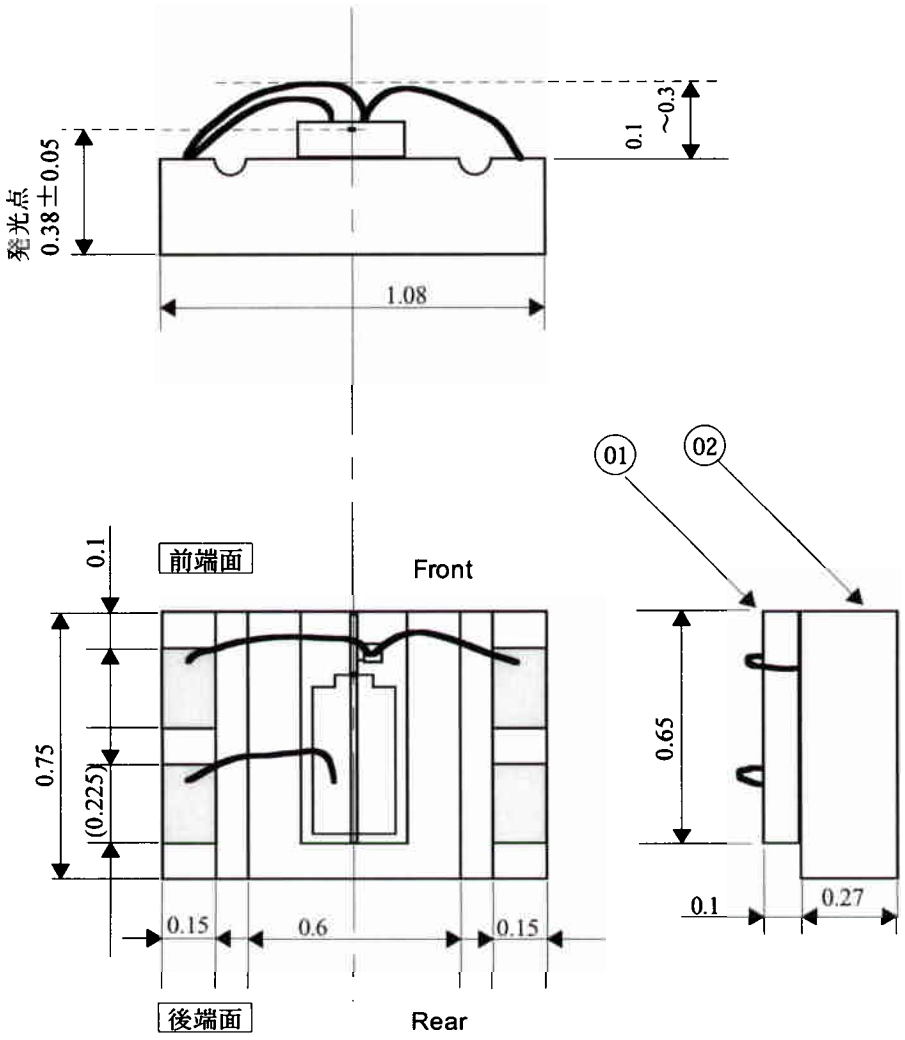


ML9SM18

記 録

Item	Description	Materials	Remarks
01	LD Chip	---	0.3×0.65×0.1
02	LD submount	SiC	
03			

Subject to change



改定CHANGE			常用
			保留
			一時
			商用

控	第3角法 3RD ANGLE PROJECTION	MITSUBISHI ELECTRIC CORPORATION			OUTLINE DRAWING OF LASER DIODE
出図先	DIM IN mm	作成 DRAWN	照査 CHECKED	設計 DESIGNED	検認 APPROVED	ML9SM18
	尺度 SCALE NTS					G480767
	作成日付 DATE					