

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

***Specification Note

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

FEATURES

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

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
I _{th}	Threshold current	CW, V _{mod} =0V			-	10	30	mA
I _{op}	Operation current	CW, P _o =5mW, V _{mod} =0V			-	70	100	mA
V _{op}	Operating voltage	CW, P _o =5mW, V _{mod} =0V			-	1.2	2.0	V
λ _p	Peak wavelength	CW, P _o =5mW, V _{mod} =0V			1530	1550	1565	nm
θ _{//}	Beam divergence angle (parallel)	CW, P _o =5mW, V _{mod} =0V			-	30	-	deg.
θ _⊥	Beam divergence angle (perpendicular)	CW, P _o =5mW, V _{mod} =0V			-	45	-	deg.
P _m	Monitoring output current	CW, P _o =5mW, V _{mod} =0V			-	1.0	-	mW
f _c	Cut off frequency	CW, P _o =5mW V _{mod} =-1V			10	14	-	GHz
tr,tf	Rise and Fall time (10%-90%)	9.95328Gbps,NRZ,PRBS2 ²³			-	30	40	psec
SMSR	Side mode suppression ratio	If=I _{op} ,V _{pp} =2.5V, V _{mod} (offset)=0 to -1.0V			35	40	-	dB
Ex	Extinction Ratio				10	11	-	dB
P _p	Dispersion Penalty	ditto	-01	50km	-	-	2.0	dB
		SMF @BER=10 ⁻¹⁰	-02	25km	-	-	2.0	dB
			-03	2km	-	-	2.0	dB



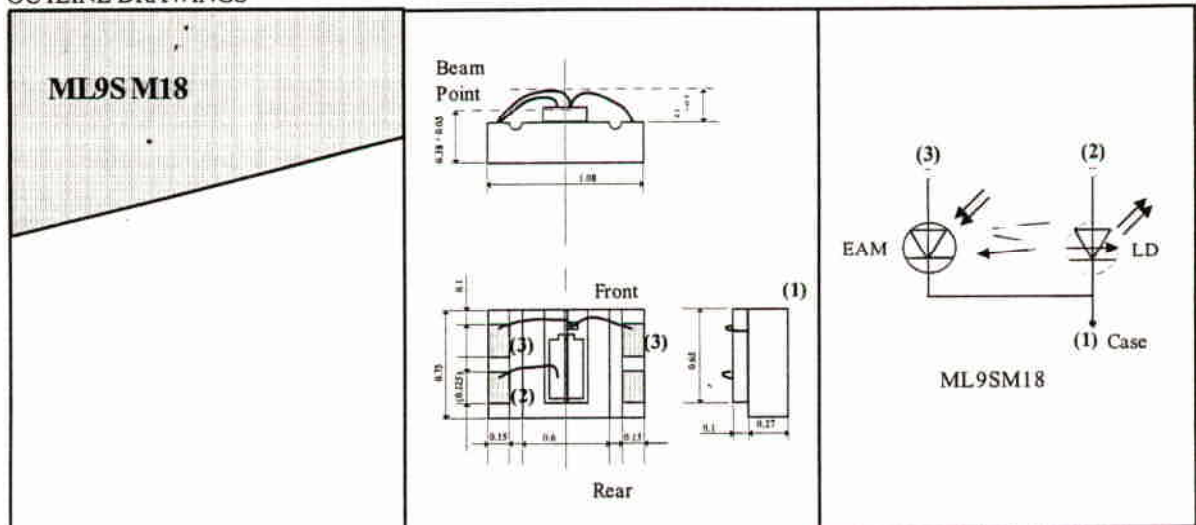
**MITSUBISHI
ELECTRIC**

MITSUBISHI LASER DIODES

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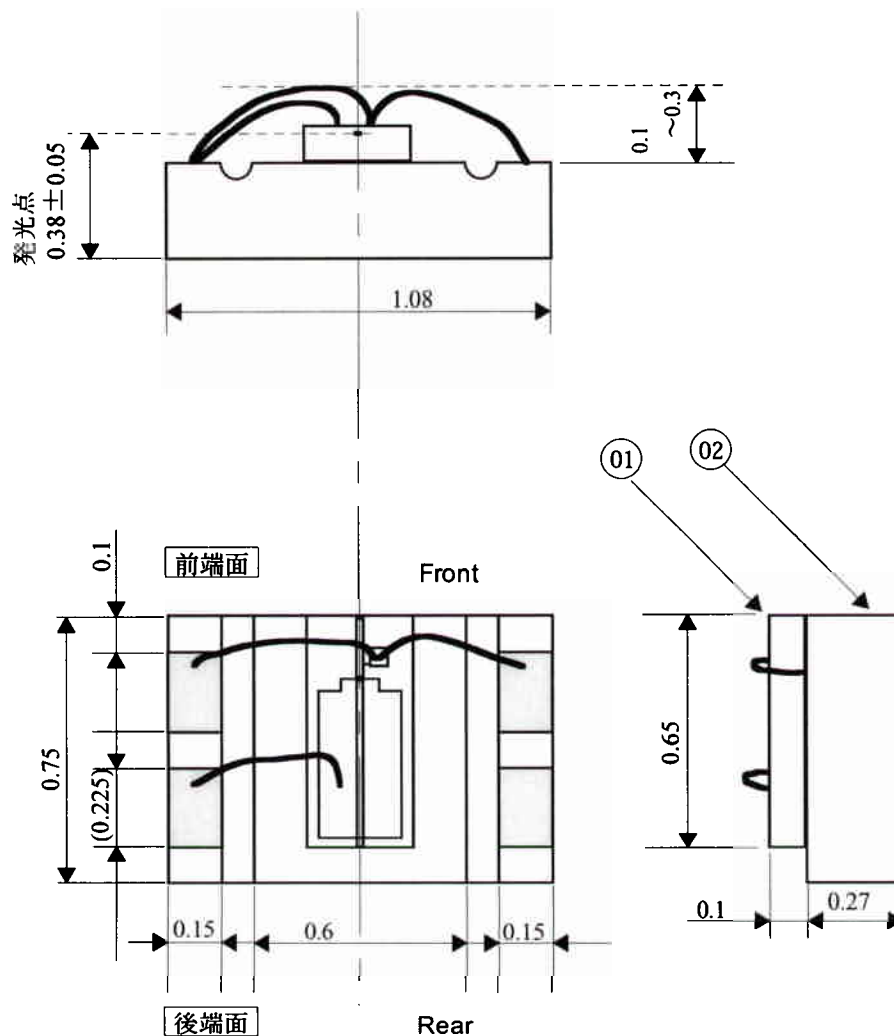
OUTLINE DRAWINGS



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
出
図
先

第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺 度 SCALE / NTS

作成日付 DATE



MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN 照査 CHECKED 設計 DESIGNED 検査 APPROVED

OUTLINE DRAWING OF LASER DIODE

ML9SM18

G480767