



## 1310nm DFB Pigtailed Components

### Features

- Built - in optical isolator
- Low capacitance and low dark current
- High stability of DFB lasers die
- Low threshold current , low operating current
- Integrated high isolation , low insertion loss



### Applications

CATV Reverse Transmission

Other Analog or Digital Optical Transmission

### Optical & Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Rated Power	Po	1	-	4	mW	Ith+20mA
Slope Efficiency	SE			0.2	mW/mA	
Threshold Current	Ith		10	15	mA	-
Forward Voltage Drop	Vop	-	1.0	1.2	V	CW, Ith+20mA
Cent Wavelength	$\lambda_c$	1300	1310	1320	nm	-
Spectrum Width(-3dB)	$\Delta\lambda$	-	0.5	1	nm	Ith+20mA
Side-mode Suppression Ratio	SMSR	35		-	dB	-
Bandwidth	Bw	2.5			GHz	
Monitor Current	Im	100		900	uA	CW, Ith+20mA
Dark Current of Monitor	Id	-	-	100	nA	5V
Optical Isolation(Single stage)	ISO	35	40	-	dB	
Optical Isolation(Double stage)	ISO	45	50	-	dB	
Return loss	RL			-45	dB	
<b>Analog Characteristic index</b>						
Relative Intensity Noise	RIN	-	-155	-150	dB/Hz	-
RF Bandpass Flatness	BF		$\pm 1.5$		dB	
Third-order Distortion	IMD3	-	-55	-	dBc	
Carrier Noise Ratio	CNR	51	-	-	dB	Note 1
Composite Second Order	CSO	-	-	-57	dBc	
Composite Triple Beat	CTB	-	-	-65	dBc	

Note 1: ① If=Iop, Optical Modulation, Index=3.2%/channel (minimum), 60 PAL-D unmodulated carries (47 to 550MHz), 10km singlemode fiber, -1dBm received power, Receiver responsivity=0.85A/W.

② If=Iop, Optical Modulation Index=3.2%/channel (minimum), CNR, CSO, CTB tested value at worst case over all test frequencies. NTSC 120ch., 10km singlemode fiber, -1dBm received power, Receiver responsivity=0.85A/W

### Absolute Maximum Ratings

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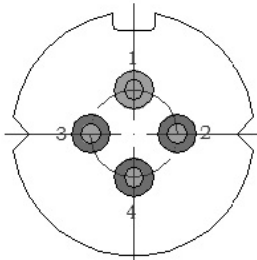
[www.laserdiode.com](http://www.laserdiode.com)



Parameter	Symbol	Min.	Max.	Unit	Test Condition
Storage Temperature	T <sub>stg</sub>	-40	100	°C	-
Operating Temperature	T <sub>op</sub>	-40	85	°C	-
Forward Current(LD)	I <sub>f</sub> (LD)		150	mA	CW
Reverse Voltage(LD)	V <sub>r</sub> (PD)		2	V	
Forward Current(PD)	I <sub>f</sub> (LD)		2	mA	CW
Reverse Voltage(PD)	V <sub>r</sub> (PD)		15	V	
Soldering Temp	-	-	260	°C	-
Soldering Time	-	-	10	S	S

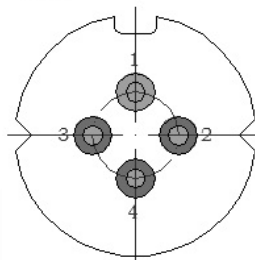
## P IN Definition

LD:



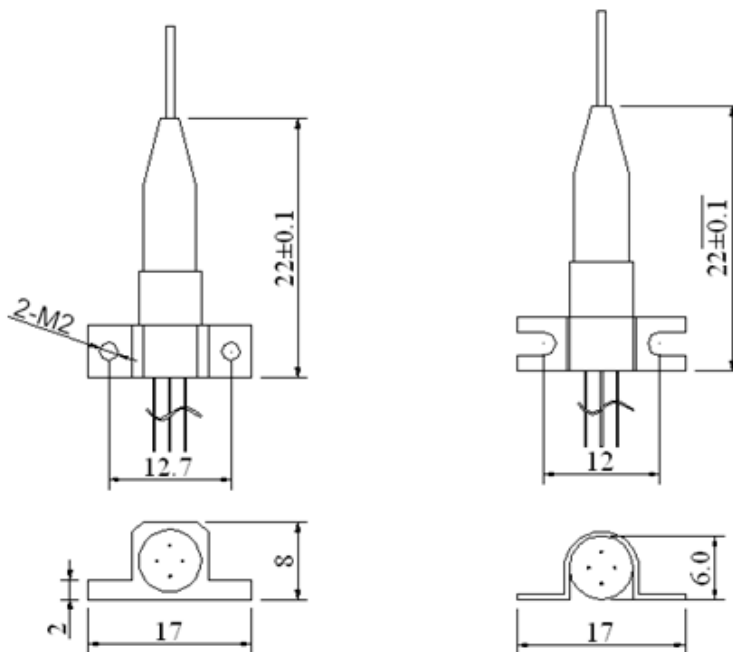
- Type A:
- 【1】 LD +
  - 【2】 LD -
  - 【3】 PD +
  - 【4】 PD -

LD:



- Type B:
- 【1】 CASE
  - 【2】 LD -
  - 【3】 LD+/PD-
  - 【4】 PD +

## Drawing



## Order Information

### MLD-D31XX-XXXX

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M	LD	D	31	X	X	-X	X	X	X
Mode	Product Type	Chip	Wavelength	Insolator	Bandwidth	Connector	Pin	Pigtail Length	Power Range
		D: DFB	31: 1310nm	S: Single B: Dual W: Without	2: 2.5Gb/s 4: 4.3Gb/s 6: 6Gb/s	1: FC/APC 2: FC/PC 3: SC/APC 4: SC/PC 5: LC/PC 6: LC/APC W: Without	A: 725 B: 720	05: 0.5m 10: 1.0m	P1: >1mW P2: >2mW ..... P4: >4mW

**Additional requirements can be settled through friendly negotiation.  
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