

## 1310nm SM Butterfly DFB Laser Diode

1310nm SM DFB ( Distributed Feedback) Butterfly Laser Diode is a semiconductor optoelectronic product which can output high quality stable laser light by the SM pigtail, it's widely used in Telecom Data Transfer, Fiber Optic Sensor and Light Source Application, the Butterfly DFB Laser Diode with PD built in to monitor the signal power, TEC built in to control the temperature, isolator built in to avoid the back reflection laser light. the pigtail also can be customized to MM, PM type upon request.

### Application:

Data Transmission  
Fiber Optic Sensor  
CWDM/DWDM System  
Testing System

### Features:

MQW DFB Laser  
High Output Optical Power  
TEC, PD and Isolator Built In  
High Reliability



### Absolute Maximum Ratings:

Parameter	Symbol	Value	Unit
LD Forward Current	If	400	mA
LD Reverse Voltage	Vr	2	V
PD Forward Current	If(PD)	5	mA
PD Reverse Voltage	Vr(PD)	10	V
Operating Temperature	T	-40~+85	°C
Storage Temperature	T	-40~+85	°C
Solder Temperature	T	260	°C
Lead Solder Time		10	S

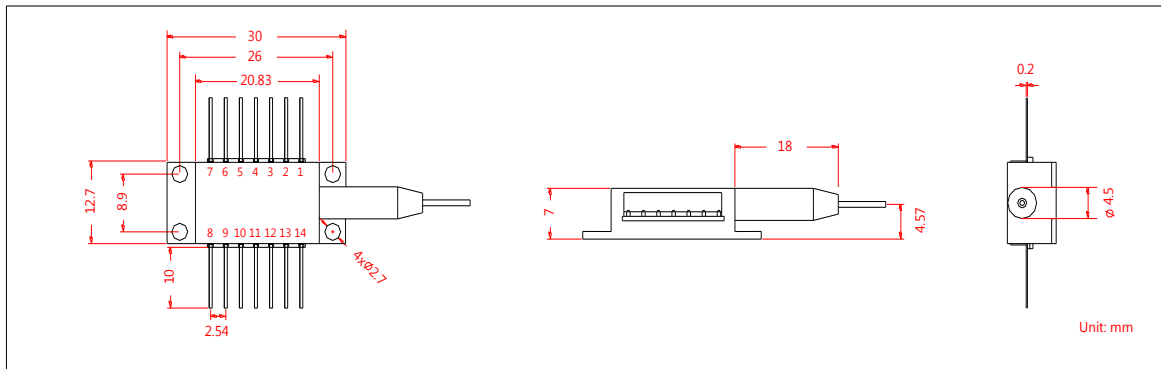
Notice: Above specifications should not be exceeded, or the LD will be seriously damaged.

### Optical and Electrical Specification:

Parameter	Symbol	Min.	Tpy.	Max.	Unit	Test Condition
Center Wavelength	$\lambda_c$	1290	1310	1330	nm	
Optical Power	Po	1	10		mW	CW
Spectral Width @-20dB	$\Delta\lambda$		0.1	0.3	nm	CW
Optical Isolation	ISO	30			dB	
Threshold Current	Ith		10	35	mA	CW
Operating Current	Iop	50	100		mA	CW, Po=10mW
Forward Voltage	Vf		1.5	3	V	CW
Monitor Dark Current	Id	10		100	nA	Vr(PD)=5V
Monitor Current	Im	100		1000	uA	CW
TEC Current	Itec			1.5	A	
TEC Voltage	Vtec			3.5	V	
Thermistor Resistance	Rth	9.5	10	10.5	K $\Omega$	
Thermistor Temperature				100	°C	
Modulation Bandwidth	BW	1.25	2.5		GHz	
Side Mode Suppression Ratio	SMSR	35	45		dB	CW
Fiber Type		SMF-28e Fiber				

Notice: Above specifications are tested at in room temperature at 23°C.  
Specifications may change without notice.

**Drawing:**



**Pin Information:**

Type A			
1	TEC (+)	14	TEC (-)
2	Thermistor	13	NC
3	PD (+)	12	NC
4	PD (-)	11	LD (-)
5	Thermistor	10	LD (+)
6	NC	9	NC
7	NC	8	NC

Type B			
1	Thermistor	14	NC
2	Thermistor	13	LD (+), Ground
3	LD (-)	12	LD (-)
4	PD (-)	11	LD (+), Ground
5	PD (+)	10	NC
6	TEC (+)	9	NC
7	TEC (-)	8	NC

**Ordering Information (Part Number):**

SMBDL-D-XXXX-XX-P-FF-J-LL-CC

WWW	OO	P	FF	J	LL	CC
Wavelength	Optical Power	Pin Assingment	Fiber Type	Fiber Jacket	Fiber Length	Connector
1310 - 1310nm	01 - 1mW 05 - 5mW 10 - 10mW 20 - 20mW 40 - 40mW SS - Specify	A - Type A B - Type B	S2 - SMF-28e	B - 250um Bare Fiber L - 900um Loose Tube	05 - 0.5m 10 - 1.0m 15 - 1.5m 20 - 2.0m SS - Specify	NE - None FA - FC/APC FU - FC/UPC LA - LC/APC LU - LC/UPC SA - SC/APC SU - SC/UPC SS - Specify

**Notification:**

1. The Semiconductor Optoelectronic products are particularly sensitive of ESD (electro-static discharge), it's recommended to use grounded anti-static wrist straps and grounded anti-static mats before handling the products.
2. Never plug or unplug the products under a living circuit, setting the current supply to zero before switching on or switching off the laser diode.
3. Always take anti-static measures to storage the products when not in use.

