



# 1550nm Butterfly Laser Diode

## Features

- High linearity high power MQW DFB LD chip
- Built-in isolator, TEC,hermistor and Monitor PD
- Optimized for 2.5 Gb/s Modulation Rates
- 14-pin butterfly cooled package
- Single mode FC/APC connector or customized
- Output power 2~16mW



## Applications

CATV forward-path

1550nm broadcast and point-to-point applications

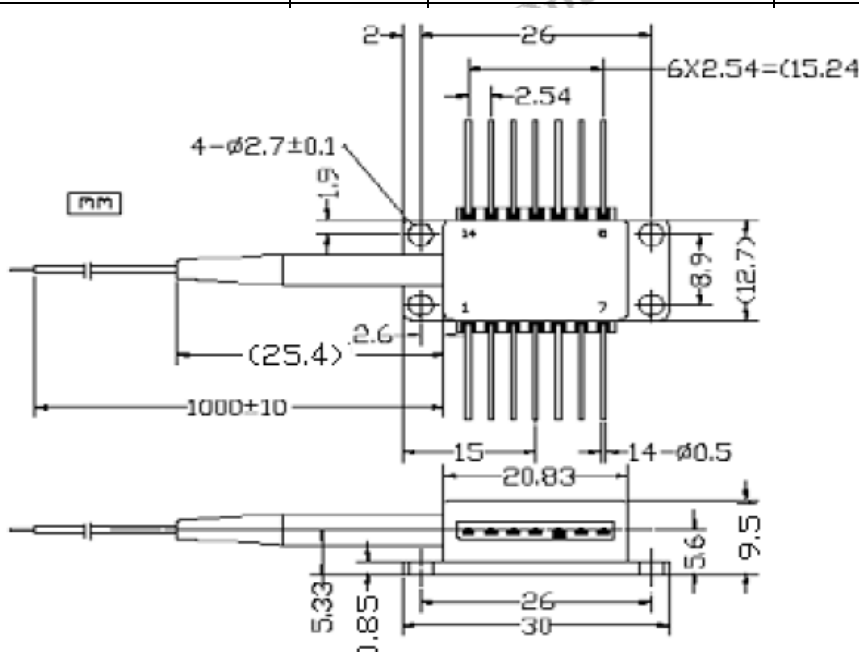
## Absolute Maximum Ratings

Parameter	Symbol	Condition	Min.	Max.	Unit
Operating Case Temperature	Tc	I=Iop	-20	80	°C
Storage Temperature	Tstg	-	-40	85	°C
Laser Forward Current	If	-	-	150	mA
Laser Reverse Bias	Vr	-	-	2	V
Photodiode Reverse Bias	Vrpd	-	-	10	V
TEC Current	Itec	-20 °C < Tc < +65 °C, Top=25 °C If=100 mA	-2	+2	A
TEC Voltage	Vc		-2.5	+2.5	V
ESD	-	ESD - HBM: R=1500 ohm, C=100 pF	-500	+500	V
Lead Solder Temperature	-	-	-	260	°C
Lead Soldering Time	-	-	-	10	S
Fiber Bend Radius	-	-	30	-	mm
Fiber Yield Strength	-	-	-	1	kgf



## Optical & Electrical Characteristics

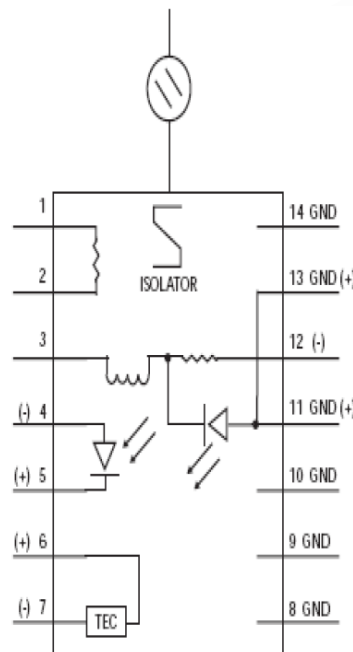
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Center Wavelength	$\lambda_c$	CW	1540	1550	1560	nm
Spontaneous Emission				0.5	1	nm
Optical Power				-	16	mW
Side-mode Suppression Ratio				35	-	dB
Temperature				-	-	dB
Current				10	15	mA
Current				-	100	mA
Current				1.2	2.0	V
Current				-	1500	$\mu$ A
Current				-	100	nA
Current				-	60	$^{\circ}$ C
Current				-	1	dB
Current				-	10.5	K $\Omega$
Current				3900		K
Current				-	1.0	A
Current				-	2.0	V
Current				-	-	GHz
Current				-155	-150	dB/Hz
Frequency Range	F		45	-	2500	MHz
Carrier Noise Ratio	CNR	Note 1	51	-	-	dB
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, Receiverresponsivity=0.85A/W

## Pin Description:

Pin	Description	Pin	Description
1	Thermistor	8	Ground
2	Thermistor	9	Ground
3	LD (N) bias	10	Ground
4	Detector (P)	11	LD (P), ground
5	Detector (N)	12	LD (N), RF modulation
6	TEC (+)	13	LD (P), ground
7	TEC (-)	14	Ground





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## Order Information

### SBF-X55XX-XXX

S	BF	-X	55	X	X	-X	X	X
Mode	Product Type	Chip	Wavelength	Insulator	Bandwidth	Connector	Pigtail Length	Power Range
		D: DFB	55: 1550nm	S: Single B: Dual W: Without	2: 2.5Gb/s	1: FC/APC 2: FC/PC 3: SC/APC 4: SC/PC 5: LC/PC W: Without	05: 0.5M 10: 1.0M	P1: >1mW P2: >2mW ..... P16: >16mW

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Additional requirements can be settled through friendly negotiation.

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