C-band Narrow-Linewidth High-Power DFB Lasers (1545–1560 nm)

Overview

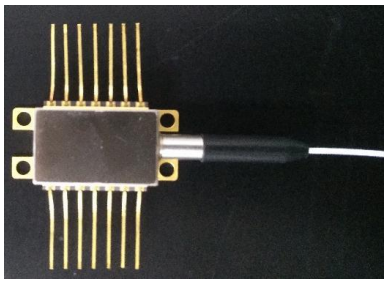
SIMTRUM's DFB narrow-linewidth lasers cover the 1545–1560 nm wavelength range and deliver power up to 80 mW. They offer advantages such as low relative intensity noise (RIN), high output power, low operating current sensitivity, and high stability, and are primarily used in fiber optic communications, fiber optic sensing, and frequency measurement.

Features

- Narrow Linewidth (200/350/800 kHz)
- High Output Power
- Low RIN

Application

- Fiber Communications
- Fiber Sensing
- Frequency measurement
- Microwave Photonics



Available Models: LL-DFB-1550-350-I-N-1-09PMF-FC/PC-50-14

Ordering Information/Product Model									
Series	Wavelength (nm)	Linewidth (kHz)	Isolator Options	Pin Assignment	Fiber Length (m)	Fiber Type	Connector Type	Output Power (mW)	Packaging
LL-DFB	ITU-T wavelength	200 = 200 kHz 350 = 350 kHz 800 = 800 kHz	I = With isolator 0 = Without isolator	N = Type N S= Type S	1 = 1m	09SMF = 900 μm SMF 025SMF = 250 μm SMF 09PMF = 900 μm PMF 025PMF = 250 μm PMF	FC/APC FC/PC	30 = 30 mW 50 = 50 mW 80 = 80 mW	14 = 14-pin butterfly M = Module

A. Specifications

Environment Temperature 25±5 °C					
Parameter	Unit	Min. Value	Typical Value	Max. Value	Test Conditions
Center Wavelength (λp)	nm	1545	/	1560	Po, 15-35℃
Linewidth	kHz	/	/	350	λp
Fiber Output Power (Po)	mW	/	50	/	λp
Operating Current (Iop)	mA	/	200	280	λp
Threshold Current (Ith)	mA	/	50	70	Tchip
Operating Voltage (Vop)	V	/	1.5	2.0	λp
Chip Operating Temperature (Tchip)	℃	15	25	35	λp
Backlight Current (Im)	μA	50	/	2000	λp
Slope Efficiency (η)	mW/mA	0.1	0.2	/	0~Iopmax, Tchip

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Side Mode Suppression Ratio (SMSR)	dB	35	45	/	λp
Polarization Extinction Ratio (PER)	dB	18	/	/	λp

B. Limit Conditions

No.	Parameter	Requirement	Unit	Remarks
1	Operating Temperature	-10~+70	℃	
2	Operating Humidity	0~90	%RH	No condensation
3	Storage Temperature	-40~+85	℃	
4	Max. Laser Current	300	mA	
5	TEC Operating Voltage	4	V	
6	TEC Operating Current	1.2	A	
7	Photodiode Reverse Voltage	20	V	
8	Photodiode Forward Current	2000	μA	
9	Pin Soldering Temperature	260 （< 10s）	℃	

C. Optical Interface Specifications

No.	Parameter	Specification Requirements
1	Pigtail Type	Panda-type PM15，Φ0.9mm, white sleeve
2	Pigtail Length	1±0.2 m
3	Connector Type	FC/APC

D. Electrical Pin Definition

Pin Number	1	2	3	4	5	6	7
Pin Definition	TEC+	Thermistor	MPD+	MPD-	Thermistor	NA	NA
Pin Number	8	9	10	11	12	13	14
Pin Definition	NA	NA	LD+	LD-	NA	CASE	TEC-

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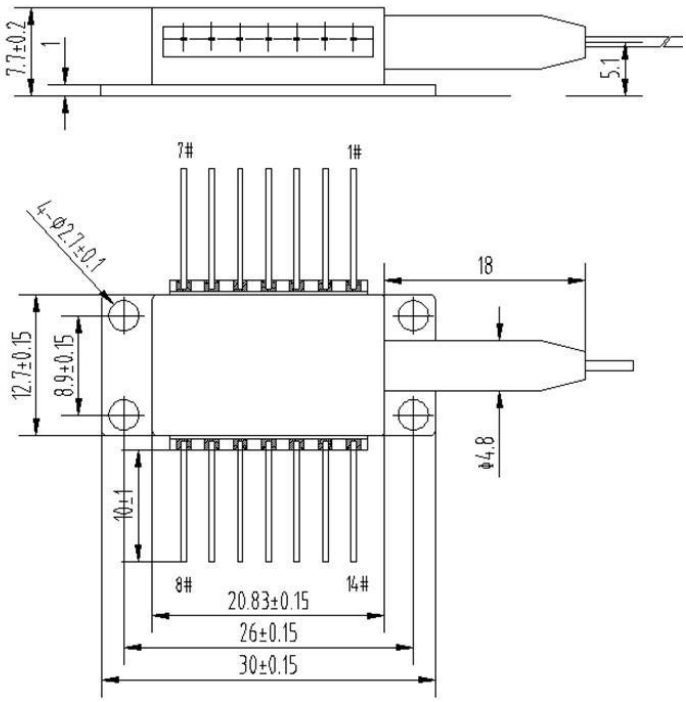
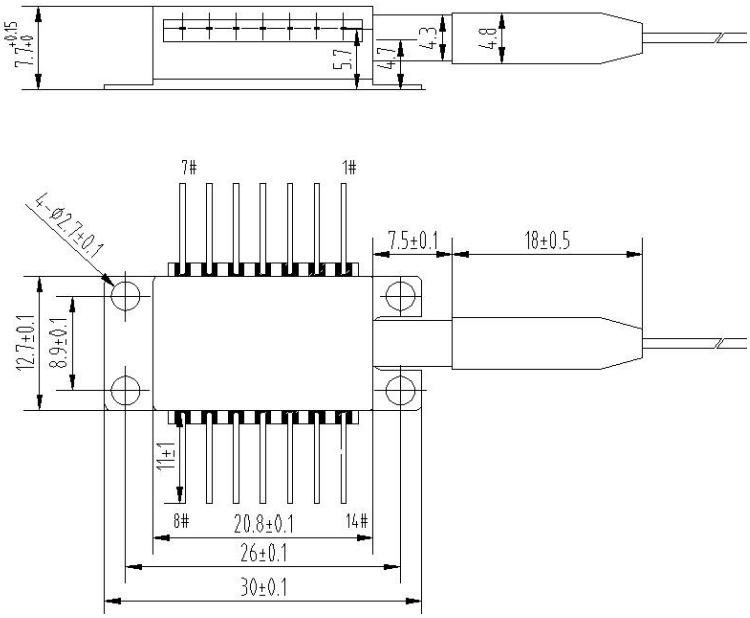
E. Mechanical Schematic Diagram

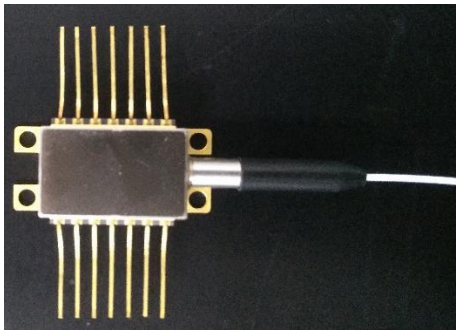


LL-DFB-N-A Package Dimensions



LL-DFB-N-B Package Dimensions

F. Product Appearance



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