

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

Overview

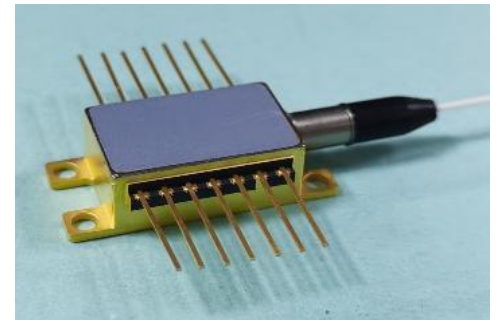
SIMTRUM's DFB narrow-linewidth lasers cover the 1545–1560 nm wavelength range and deliver power up to 80 mW. They offer advantages such as low relative intensity noise (RIN), high output power, low operating current sensitivity, and high stability, and are primarily used in fiber optic communications,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

Features

- High Stability
- Low Noise

Application

- Fiber Communications
- Fiber Sensing



Available Models: LL-DFB-1550-0-N-1-09PMF-FC/APC-100-14

Ordering Information/Product Model								
Series	Wavelength (nm)	Isolator Options	Pin Assignment	Fiber Length (m)	Fiber Type	Connector Type	Output Power (mW)	Packaging
LL-DFB	1550	I = With isolator 0 = Without isolator	N = Type N S = Type S	1 = 1 m 0.5 = 0.5 m	09SMF = 900 μ m SMF 025SMF = 250 μ m SMF 09PMF = 900 μ m PMF 025PMF = 250 μ m PMF	FC/APC FC/PC	5 = 5 mW 10 = 10 mW 100 = 100 mW	14 = 14-pin butterfly M = Module

A. Specifications

Environment Temperature 25 $\pm$ 5 $^{\circ}$ C					
Parameter	Unit	Min. Value	Typical Value	Max. Value	Test Conditions
Peak Wavelength (λ_p)	nm	1549	1550	1551	Po, 25 $^{\circ}$ C
Spectral Width at 20 dB ($\Delta\lambda$)	nm	/	0.1	1	λ_p
Fiber Output Power (Po)	mW	/	100	/	λ_p
Operating Current (Iop)	mA	/	450	500	λ_p
Threshold Current (Ith)	mA	/	20	50	Tchip
Operating Voltage (Vop)	V	/	2	2.5	λ_p
Chip Operating Temperature (Tchip)	$^{\circ}$ C	15	25	35	λ_p
Backlight Current (Im)	μ A	50	/	2000	λ_p

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Slope Efficiency (η)	mW/mA	0.1	0.2	/	0~I _{opmax} , T _{chip}
Side Mode Suppression Ratio (SMSR)	dB	35	45	/	λ_p
Polarization Extinction Ratio (PER)	dB	18	/	/	λ_p

B. Limit Conditions

No.	Parameter	Requirement	Unit	Remarks
1	Operating Temperature	-20~+60	°C	
2	Operating Humidity	0~90	%RH	No condensation
3	Storage Temperature	-40~+85	°C	
4	Max. Laser Current	500	mA	
5	TEC Operating Voltage	4.3	V	
6	TEC Operating Current	1.8	A	
7	Pin Soldering Temperature	260 (< 10s)	°C	

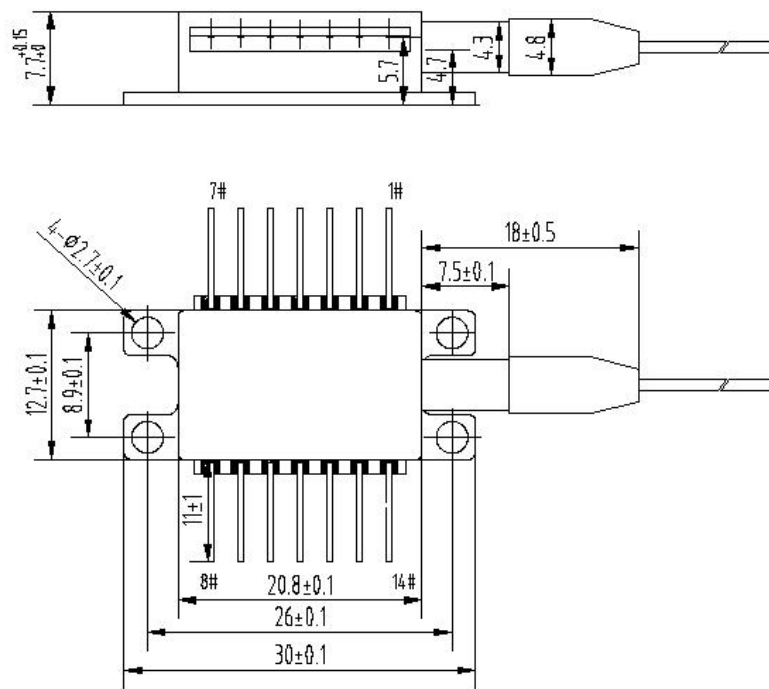
C. Optical Interface Specifications

No.	Parameter	Specification Requirements
1	Pigtail Type	Panda-type PM15, $\Phi 0.9\text{mm}$, white sleeve
2	Pigtail Length	1 $\pm$ 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-

E. Mechanical Schematic Diagram



F. Product Appearance

