C-band Narrow-Linewidth ECL Lasers

Overview

SIMTRUM's C-band narrow-linewidth ECLs offer advantages such as low relative intensity noise (RIN), high output power, low operating current sensitivity, and high stability. They are primarily used in fiber-optic communications, fiber-optic sensing, and lidar applications.

Features

- High Stability
- Low Noise

Application

- Fiber Communications
- Fiber Sensing

Available Models: LL-ECL-1545.32-2-F-10-09PMF-FC/APC-M

Series	Wavelength (nm)	Linewidth (kHz)	Adjustable power	Output Power (mW)	Fiber Type	Connector Type	Packaging
LL-ECL	ITU-T wavelength	2 = 2 kHz	T = Adjustable F = Non-adjustable	10 = 10 mW	09SMF = 900 μm SMF 025SMF = 250 μm SMF 09PMF = 900 μm PMF 025PMF = 250 μm PMF	FC/APC FC/PC	M = Module

A. Specifications

Environment Temperature 25±5 °C					
Parameter	**Unit**	**Min. Value**	**Typical Value**	**Max. Value**	**Test Conditions**
Peak Wavelength (λp)	nm	1545.31	1545.32	1545.33	
Frequency Stability*	MHz	-6	/	+6	8 hours@25℃
Linewidth (Δλ)	kHz	/	/	2	Delay-Induced Heterodyne Test
Fiber Output Power (Po)	mW	10	/	/	
Power Stability	%	-5	/	+5	10~55℃
Relative Intensity Noise (RIN)	dB/Hz	-140	/	/	@1 kHz
Isolation (ISO)	dB	40	/	/	
Side Mode Suppression Ratio (SMSR)	dB	50	/	/	
Polarization Extinction Ratio (PER)	dB	20	/	/	Alignment of the Slow Axis in Polarization-Maintaining Fiber
Operating Voltage (Vop)	V	5	/	5.5	

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Power Consumption	W	/	/	3	
Power Connectors	/	DB9 Female			

*Frequency stability should be tested after the module has stabilized in the temperature cycling chamber; this information is for reference only.

B. Limit Conditions

No.	Parameter	Requirement	Unit	Remarks
1	Operating Voltage	5.5	V	
2	Operating Humidity	0~90	%RH	No condensation
3	Operating Temperature	10~+55	℃	
4	Storage Temperature	-40~+85	℃	

C. Optical Interface Specifications

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

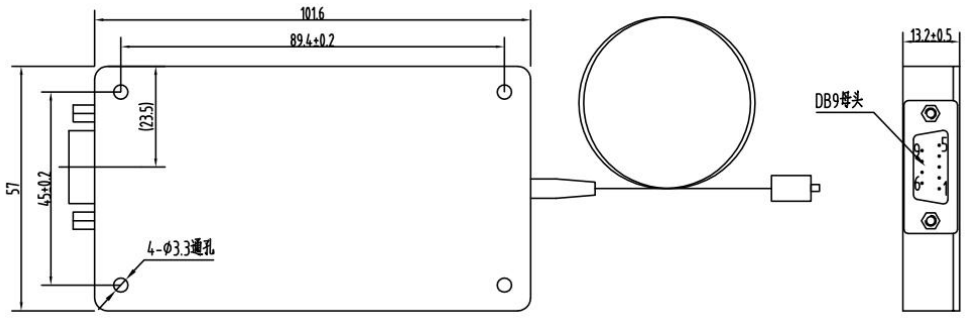
D. Electrical Pin Definition

Pin Number	1	2	3	4	5	6	7	8	9
Pin Definition	Vcc	NA	NA	NA	GND	NA	NA	NA	EN

*Leave the NA pin floating during use;

*EN: Enable pin; a high level (3–5 V) turns the module off, and a low level (0–1 V) turns it on.

E. Mechanical Schematic Diagram



*Installation Instructions: Secure the module to the heat sink using four M3 screws.

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