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SPECIFICATION

25G CWDM Bidi TO

DL-DFBxx005T-A-25-I

DL-DFB27005T-A-25-I

DL-DFB33005T-A-25-I

DL-DFBxx005T-A-25-I

25G CWDM DFB TO

A. Description

DenseLight DL-DFBxx005T-A-25-I is a DFB laser diode operating at 25 Gbps designed for 1270/1330nm wavelength. The laser supports high temperature operation up to 85C with minimum output power of 5mW.

The following product codes denote the respective wavelengths:

1. DL-DFB27005T-A-25-I: 1270nm
2. DL-DFB33005T-A-25-I: 1330nm

B. Absolute Maximum Ratings

Operation beyond the absolute maximum ratings can cause degradation in device performance leading to permanent damage to the device.

Parameter	Symbol	Condition	Min	Max	Unit
Reverse voltage	V_R	–	–	1	V
Forward current	I_F	–	–	100	mA
Operating temperature	T_{op}	–	-40	85	°C
Storage temperature	T_{stg}	Unbiased	-40	85	°C
Electro-static discharge (ESD)	V_{ESD}	Human body model	–	500	V

Note：

1.Stresses in excess of the absolute maximum ratings can cause permanent damage to the device.

2.These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet.

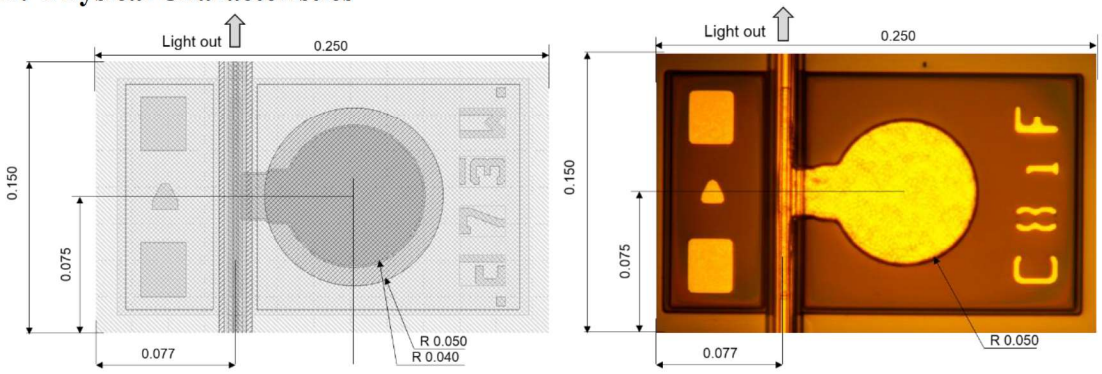
3.Exposure to absolute maximum ratings for extended periods can adversely affect device reliability

C. Specifications

Performance is based on laser diode chip singulated from bar and mounted onto heat-dissipating high-speed sub-mount.

Test parameter	Symbol	Test condition	Min	Typ	Max	Unit
Threshold current	Ith	25°C		9	15	mA
		85°C			25	
Optical output power	P_o	25°C, Ith+30mA	5.4	8		mW
Forward voltage	V_f	25°C, Ith+30mA			2	V
Slope Efficiency	ηs	25°C, Ith+30mA		0.27		mW/mA
		85°C, Ith+30mA	0.07			
Operating Current	I_{op}	25°C			60	mA
		85°C		70	100	mA
Center wavelength	λ_c	-40°C~85°C	1260	1270	1280	nm
			1320	1330	1340	nm
Side-Mode Suppression Ratio	SMSR	Ith + 30 mA	30	35		dB
Temperature dependence of center wavelength	△λ/ΔT	CW		0.1		nm/°C
Resistance	R	Ith+30mA		10		Ω
Small signal modulation Bandwidth(3dB)	BW	25°C,50mA	20	22		GHz
		85°C,60mA	15.5	17		
Relaxation oscillation frequency	fr	25°C,50mA				GHz
		85°C,60mA		10		
Monitor Current	I_m	25°C, Ith+30mA	0.1		1.2	mA
Dark Current	I_D	No light, V=-5v		0.3	5	nA
PD Capacitance	C_t	V=-5v		1.8	4	pF

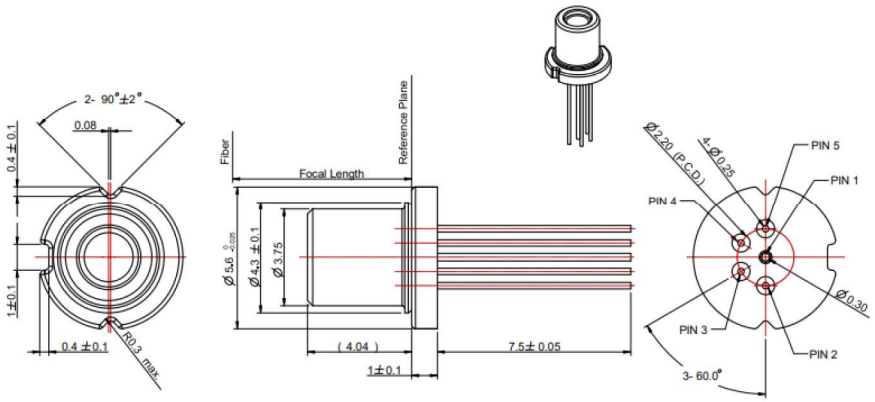
D. Physical Characteristics



E. Dimensions and Pin assignment

Dimension: (mm)

All dimensions are nominal



Flex Board PINOUT (Bottom View)

L-TT-ICXX-05	
Number	Function
Pin1	GND/ Photodiode Anode
Pin2	Laser Diode Cathode (LD-)
Pin3	Non-Connect
Pin4	Photodiode Cathode (PD-)
Pin5	Laser Diode Anode (LD+)

F. Device Handling

1. DFB laser chips are inherently fragile & easily damaged. Special handling precautions must be taken – avoid using tweezers or any form of contact with facets and a vacuum tip with flat surface is recommended
2. This device has ESD withstand voltage of 500V. EOS may result from improper ESD handling

G. ORDER INFORMATION