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SPECIFICATION

25G CWDM TO

DL-DFBxx105T-A-25-E

DL-DFB27105T-A-25-E

DL-DFB29105T-A-25-E

DL-DFB31105T-A-25-E

DL-DFB33105T-A-25-E

DL-DFB35105T-A-25-E

DL-DFB37105T-A-25-E

DL-DFBxx105T-A-25-E

25G CWDM DFB TO

A. Description

DenseLight DL-DFBxx105T-A-25-E is a DFB laser diode operating at 25 Gbps designed for 1271/1291/1311/1331/1351/1371nm 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-DFB27105T-A-25-E: 1271nm
2. DL-DFB29105T-A-25-E: 1291nm
3. DL-DFB31105T-A-25-E: 1311nm
4. DL-DFB33105T-A-25-E: 1331nm
5. DL-DFB35105T-A-25-E: 1351nm
6. DL-DFB37105T-A-25-E: 1371nm

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}	–	-20	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.

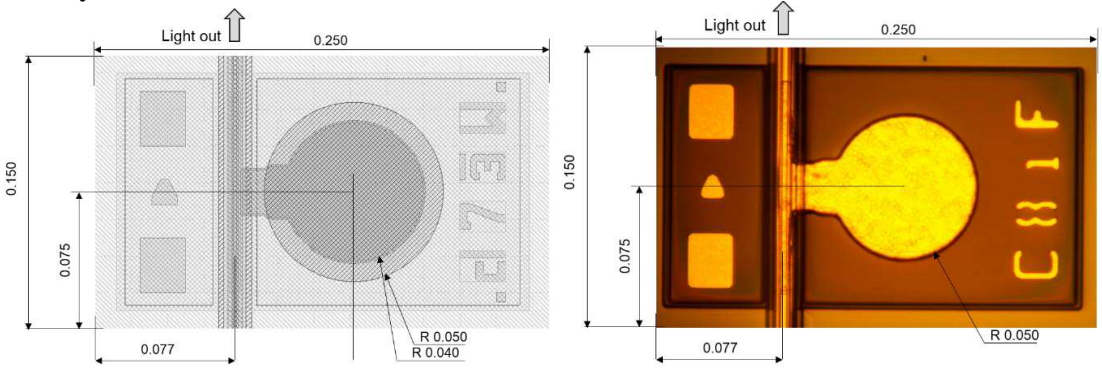
3.Exposure to absolute maximum ratings for extended periods can adversely affect device reliability

C. Specifications

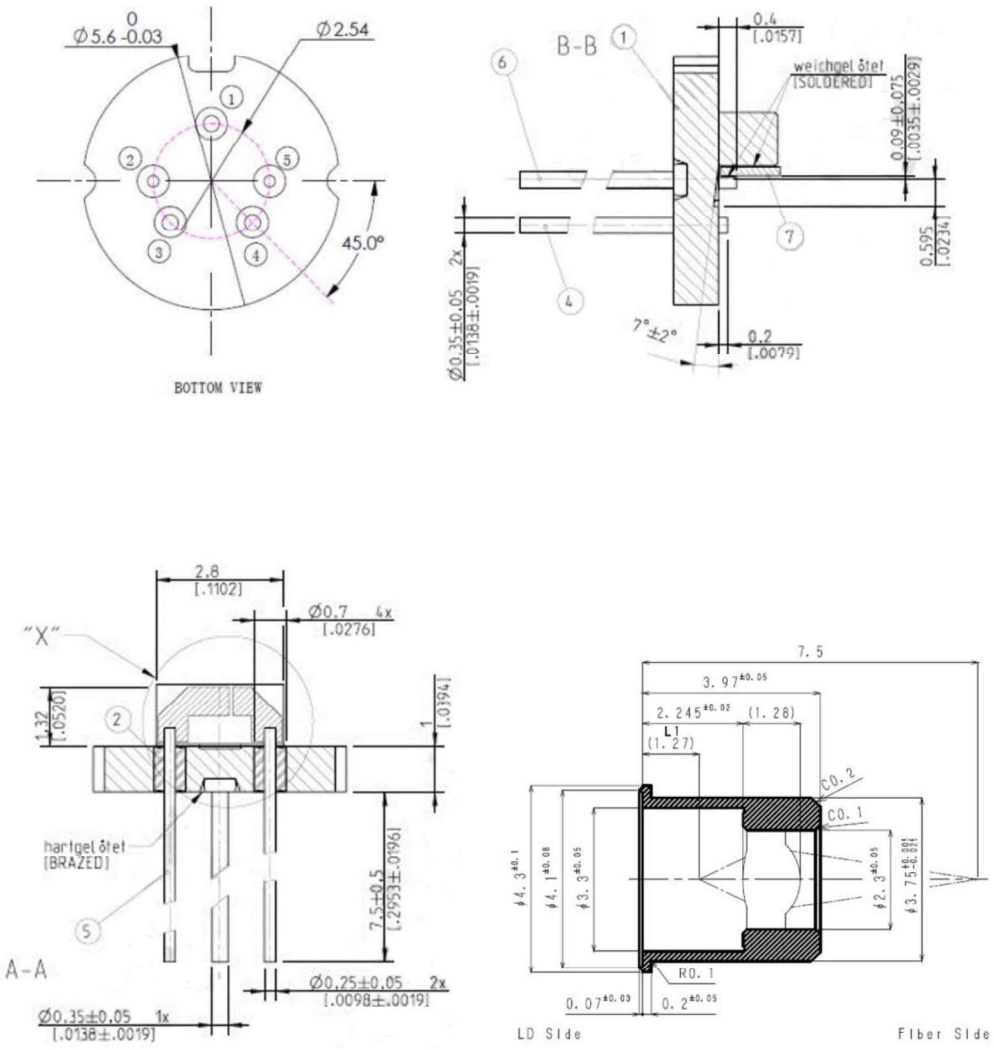
Performance is based on laser diode chip singulated from bar and mounted onto heat-dissipating high-speed sub-mount.

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	Iop	25°C			60	mA
		85°C		70	100	mA
Center wavelength	λ_c	-20°C~85°C	1264.5	1271	1277.5	nm
			1284.5	1291	1297.5	nm
			1304.5	1311	1317.5	nm
			1324.5	1331	1337.5	nm
			1344.5	1351	1357.5	nm
			1364.5	1371	1377.5	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

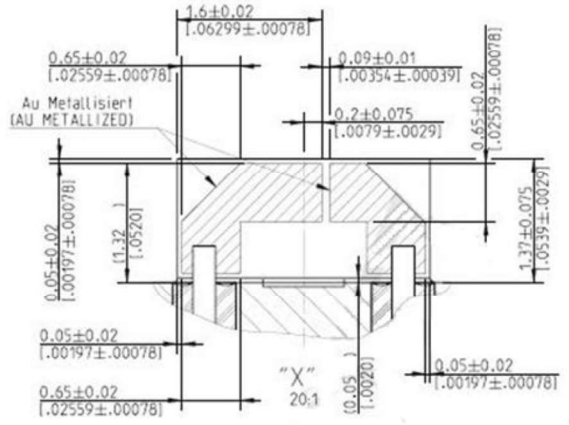
D. Physical Characteristics



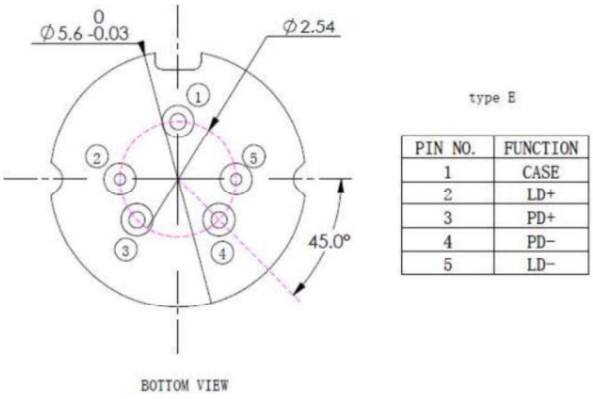
E. Dimensions and Pin assignment



5pin TO header technical drawing / 5pin TO cap with aspherical lens



Drawing for LD Submount with bottom side eutectic solder



PIN NO.	FUNCTION
1	CASE
2	LD+
3	PD+
4	PD−
5	LD−

Pin Numbering (Bottom View)

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