

**SPECIFICATIONS**

**25G DML, CWDM, for C-TEMP**

**Application**

**DL-DFBxx106D-25-C**

**DL-DFB27106D-25-C**

**DL-DFB29106D-25-C**

**DL-DFB31106D-25-C**

**DL-DFB33106D-25-C**

## DL-DFBxx106D-25-C

### 25G CWDM Laser

#### A. Description

DenseLight DL-DFBxx106D-25-C is a DFB laser diode operating at 25 Gbps designed for 1271/1291/1311/1331nm wavelength. The DL-DFBxx106D-25-C laser supports high temperature operation up to 75°C with minimum output power of 6mW.

The following product codes denote the respective wavelengths:

1. DL-DFB27106D-25-C: 1271nm
2. DL-DFB29106D-25-C: 1291nm
3. DL-DFB31106D-25-C: 1311nm
4. DL-DFB33106D-25-C: 1331nm

#### 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	$T_{op}$	-	-5	75	°C
Storage temperature	$T_{stg}$	Unbiased	-40	85	°C
Electro-static discharge (ESD)	$V_{ESD}$	Human body model	-	500	V

Note :

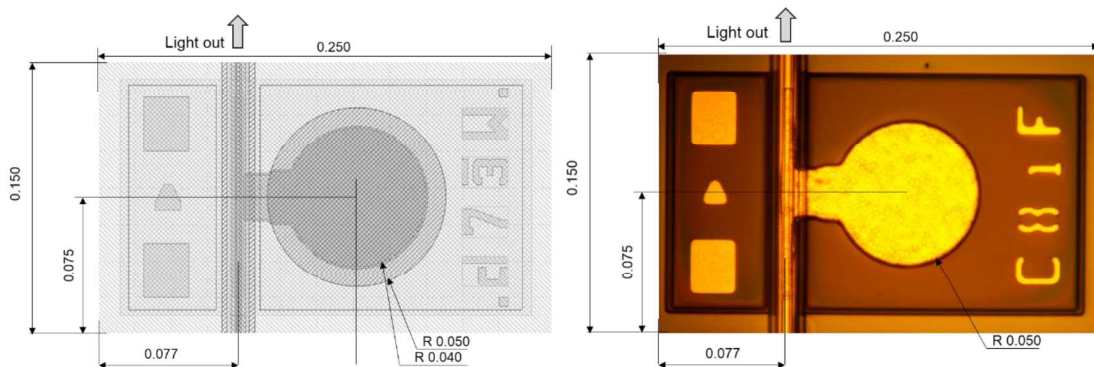
1. Stresses in excess of the absolute maximum ratings can cause permanent damage to the device.
2. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet.
3. Exposure 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	I <sub>th</sub>	25°C		9	15	mA
		75°C			25	
Optical output power	P <sub>o</sub>	25°C, I <sub>th</sub> +30mA	6	7		mW
Forward voltage	V <sub>f</sub>	25°C, I <sub>th</sub> +30mA			2	V
Slope Efficiency	η <sub>s</sub>	25°C, I <sub>th</sub> +30mA		0.25		mW/mA
		75°C, I <sub>th</sub> +30mA	0.07			
Center wavelength	λ <sub>c</sub>	-5°C~75°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
Side-Mode Suppression Ratio	SMSR	I <sub>th</sub> + 30 mA	30	35		dB
Temperature dependence of center wavelength	Δλ/ΔT	CW		0.1		nm/°C
Resistance	R	I <sub>th</sub> +30mA		10		Ω
Small signal modulation Bandwidth(3dB)	BW	25°C,50mA		20		GHz
		75°C,60mA		16		
Relaxation oscillation frequency	f <sub>r</sub>	75°C,60mA		10		GHz

### D. Physical Characteristics



---

## E. 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

## F. Order Information

