

25G 1xx0nm DFB Laser Module

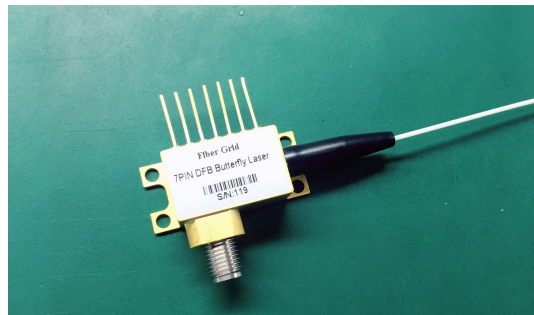
FGBTx-0504-00

Description

The high quality DFB laser diode with 7PIN butterfly package can meet the requirement of high wide Bandwidth performance. Also, built-in thermo-electric cooler (TEC) can make the laser diode work properly in various environments.

Features

- ③ 4mW output power
- ③ RF K-Connector
- ③ High linearity DFB laser
- ③ Optical isolator integrated
- ③ Direct modulation up to 25GHz
- ③ Built in TEC, thermistor and monitor detector



Applications

- ③ RF over fiber
- ③ RF delay line
- ③ Antenna remoting
- ③ High speed pulsing
- ③ Test and measurement
- ③ Broadband microwave transmission

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min.	Max.	Unit
Operating Temperature	T_{op}	Continuous	-20	+70	°C
Storage Temperature	T_{STG}	-	-40	+85	°C
RF Input Power	P_{IN}	60 Seconds	-	+20	dBm
Laser Forward DC Current	-	-	-	100	mA
Photodiode Reverse Voltage	V_{RPD}	-	-	20	V
Laser Reverse Voltage	-	-	-	2	V
ESD	-	HMB: R = 1500 Ohm, C = 100 pF	-500	500	V
TEC Current	I_{TEC}	Continuous	-1.9	1.9	A

批准:

审核:

制作:

Electrical and Optical Characteristics (@25° C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Center Wavelength*	λ_c	$I_{OP} = I_{TH} + 40mA$	1xx0 -10	1xx0	1xx0 +10	nm
Optical Power	P_o	$I_{TH} + 40mA$	3	4.5		mW
Threshold Current	I_{TH}	$T_c = 25^\circ C$ $T_c = 70^\circ C$	-	8 15	11 20	mA
Laser Drive Current	I_{OP}				55	mA
Laser Forward Voltage	V_F	$I = I_{MAX}$		1.5	2	V
Relative Intensity Noise	RIN	$P = P_{OP}$			-130	dB/Hz
Side Mode Suppression	SMSR	$P = P_{OP}$	30	40	-	dB
Optical Isolation	ISO		30	35		dB
MPD Current	I_{PD}	$P = P_{OP}$	50			μA
MPD Dark Current	I_D				100	nA
Tracking Error	T_E	$P = P_{OP}$	-0.5		+0.5	dB
TEC Current		$T_{OP} = 70^\circ C, P = P_{OP}, T_{CHIP} = 25^\circ C$			2.0	A
TEC Voltage		$T_{OP} = 70^\circ C, P = P_{OP}, T_{CHIP} = 25^\circ C$			2.5	V
Thermistor Resistance	R_{TH}	$T = 25^\circ C$	9500	10000	10500	Ω
Thermistor β coefficient	β	0 / 50 $^\circ C$		3892		
Operating Temperature	T_{OP}	$I_{OP} = I_{TH} + 30mA$	-20		60	$^\circ C$

RF Characteristics

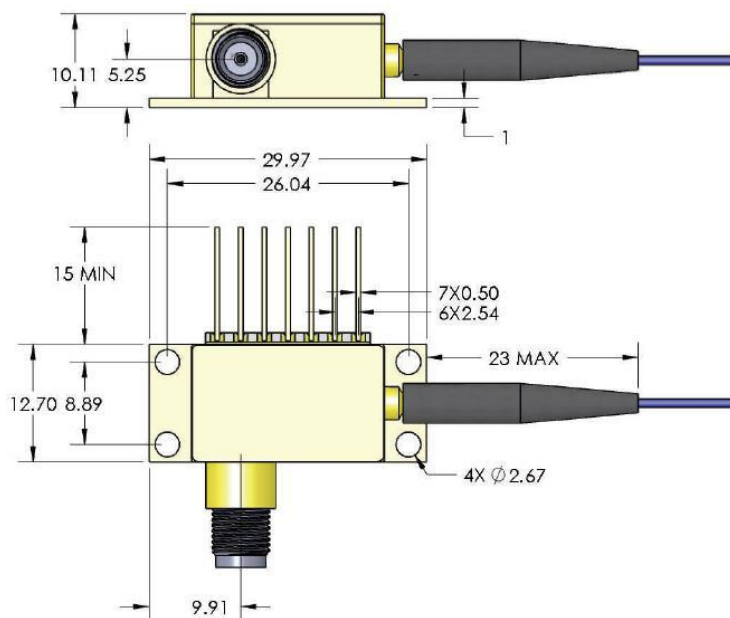
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Frequency Range	Fr		10M	18G	25G	Hz
Amplitude Flatness					5	dB
Input Return Loss (50Ω)					4	dB
Input 1 dB Compression				+20		dBm
Third-Order Intercept 0.01 GHz – 7.0 GHz 7.0GHz – 20.0 GHz				+30 +25		dBm
Noise Figure 0.01 GHz - 3.0 GHz 3.0GHz - 7.0 GHz 7.0GHz - 13.0 GHz 13.0 GHz - 20.0 GHz				44 50 54 59		dB

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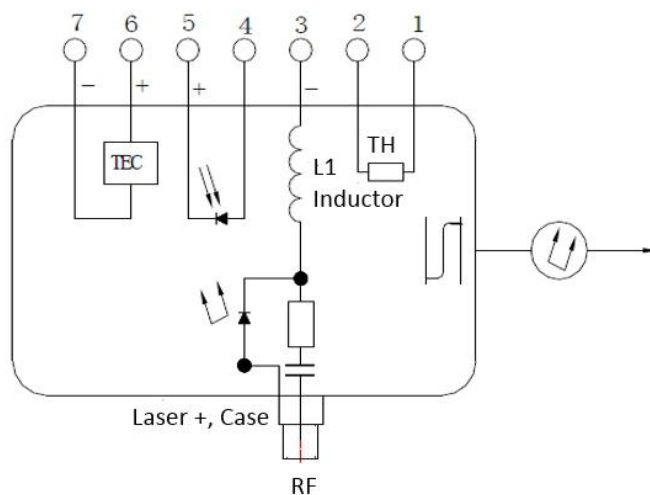
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Mechanical Drawing (dimensions are in mm)



Electrical Schematic



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Pin Definitions

Pin	Description
1	Thermistor
2	Thermistor
3	Laser Cathode (-), DC Bias 1
4	MPD Anode, (Negative Bias MPD)
5	MPD Cathode
6	TEC (+) 2
7	TEC (-)
K type Female	RF input connector
FC/APC	Optical connector

Contact us

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