

## 1550 nm DWDM DFB Laser Module

### FGBT55-xx0x-xx

#### Description

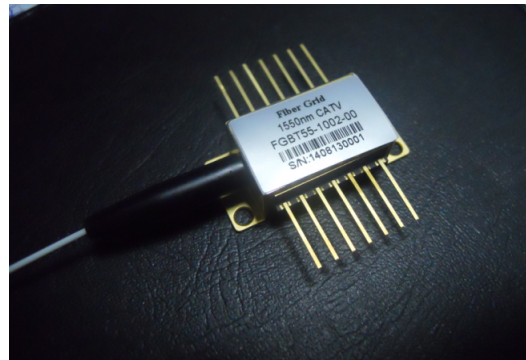
laser for analog applications. It features a distributed feedback chip that has been designed specifically for Radio Frequency (RF) applications. The 1550 nm DWDM DFB laser module has a wide temperature range for reliable performance in harsh node environments and narrow transmitter designs. The versatile 1550 nm DWDM DFB laser module reduces cable network architecture fiber needs and lessens equipment requirements in the hub.

#### Features

- Advanced Analog Chip Design
- Built-in isolator
- Meets GR 468 reliability specifications
- Standard ITU Grid Wavelengths

#### Applications

- Digital CATV transmission
- 1550nm broadcast and point-to-point applications

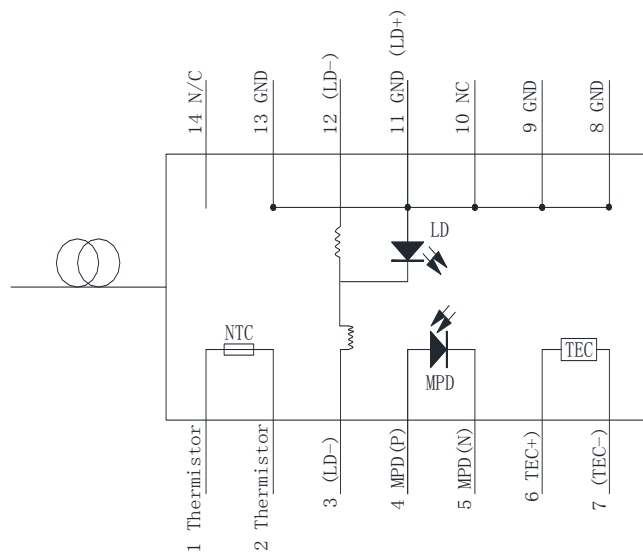


#### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Condition
Operating Case Temperature	Tc	-20	70	°C	I=Iop
Storage Temperature	Tstg	-40	85	°C	--
Laser Forward Current	If	--	120	mA	--
Laser Reverse Bias	Vr	--	2	V	--
Photodiode Reverse Bias	Vrpd	--	10	V	--
TEC Current	Itec		1.5	A	-20 °C < Tc < +65 °C,

#### Pin Description:

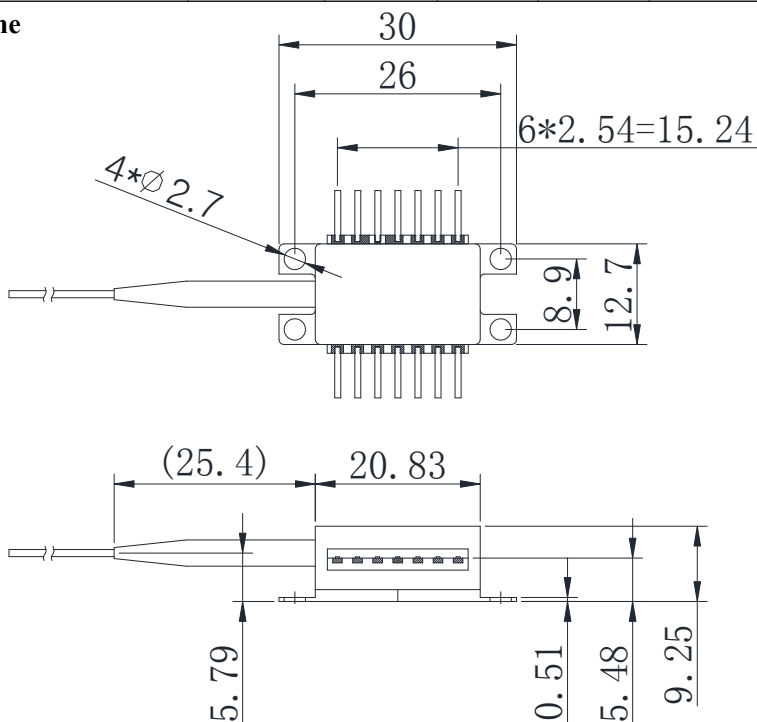
Pin	Description	Pin	Description
1	Thermistor	8	Ground
2	Thermistor	9	Ground
3	LD (N) bias	10	N/C
4	Detector (P)	11	LD (P), ground
5	Detector (N)	12	LD (N), RF modulation
6	TEC (+)	13	LD (P), ground
7	TEC (-)	14	N/C



### Electrical and Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Center Wavelength	$\lambda_c$	1530	--	1560	nm	CW
Wavelength Drift as Case Temp. is Changed	$\lambda\Delta$	--	--	0.04	nm	$I_f = 60 \text{ mA}$ , $T = T_{OP}$
Optical Output Power*	$P_o$	6	-	10	mW	CW, $T_L = 25^\circ\text{C}$
Optical Isolation	$I_S$	30	--	--	dB	$T = 25^\circ\text{C}$
Side-mode Suppression Ratio	SMSR	30	--	--	dB	CW
Threshold Current	$I_{th}$	--	25	--	mA	$T_L = 25^\circ\text{C}$
Operating Current	$I_{op}$	--	--	120	mA	CW
Forward Voltage	$V_F$	--	1.2	2.0	V	CW
Monitor Current	$I_{mon}$	10	--	200	$\mu\text{A/mW}$	
Monitor Dark Current	$I_D$	--	--	50	nA	$V_{rpd} = 5 \text{ V}$
Operating Case Temperature	T	-20	--	70	$^\circ\text{C}$	
Tracking Error	$\gamma$	-1.0	--	1.0	dB	$TE = 10 \log(P_o(T_c)/P_o(25^\circ\text{C}))$
Thermistor Resistance	$R_t$	9.5	10	10.5	K $\Omega$	$T = 25^\circ\text{C}$
Thermistor B-Value		-	3900	-	K	$25^\circ\text{C}/85^\circ\text{C}$
TEC Current	$I_C$	--	--	1.5	A	$\Delta T = 40^\circ\text{C}$
TEC Voltage	$V_C$	--	--	2.0	V	$\Delta T = 40^\circ\text{C}$
Carrier Noise Ratio	CNR	51			dB	59 CH, PAL
Composite Second Order	CSO		-	-44	dBc	59 CH, PAL
Composite Triple Beat	CTB		-	-53	dBc	59 CH, PAL
Frequency range	F	45		860	MHz	-
Frequency Response Flatness		-0.5	--	0.5	dB	$25^\circ\text{C}$ , $I_f = I_{op}$ , 40-860 MHz

### Package Outline



**Oder information**

• F G B T 55- xx 0x- xx

19 = ch.19	20 = ch.20	21 = ch.21
22 = ch.22	23 = ch.23	24 = ch.24
25 = ch.25	26 = ch.26	27 = ch.27
28 = ch.28	29 = ch.29	30 = ch.30
31 = ch.31	32 = ch.32	33 = ch.33
34 = ch.34	35 = ch.35	36 = ch.36
37 = ch.37	38 = ch.38	39 = ch.39
40 = ch.40	41 = ch.41	42 = ch.42
43 = ch.43	44 = ch.44	45 = ch.45
46 = ch.46	47 = ch.47	48 = ch.48
49 = ch.49	50 = ch.50	51 = ch.51
52 = ch.52	53 = ch.53	54 = ch.54
55 = ch.55	56 = ch.56	57 = ch.57
58 = ch.58	59 = ch.59	60 = ch.60
61 = ch.61	62 = ch.62	

Optical Connector : 2-- SC/APC Pigtail  
 4--FC/APC Pigtail

Optical power : 06—6.0mW, 08—8.0mW, 10—10mW