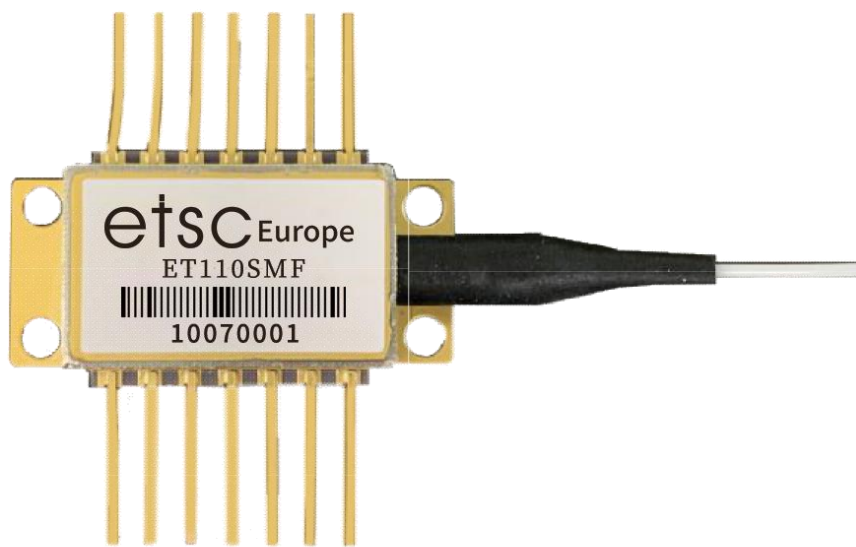


# CW Narrow Band Tunable Laser Module



## Description

The tunable laser is a DBR laser without a semiconductor optical amplifier (SOA). Its wavelength can be tuned continuously and flexibly, and can be tuned to ITU channel grids.

## Features

- 14 PIN Butterfly Package
- High output power, up to 15 dBm
- High side-mode suppression ratio > 40 dB
- Wavelength adjust flexibly, tuning range 8-10nm
- Qualified as per intent of Telcordia GR-468

## Applications

- DWDM transmission systems
- Tunable DWDM transponders and transceivers
- Dynamic provisioning and wavelength routing in DWDM systems
- Test and measurement
- Optical Fiber Sensing

## Absolute Maximum Ratings

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

Parameter	Symbol	Min	Typ	Max	Unit
Storage temperature	Ts	-40		85	°C
Relative humidity	RH	0		85	%
Laser diode reverse voltage (all sections)	Vr			3	V
Laser gain current	Ig			250	mA
Grating current	Ir			100	mA
Phase current	Ip			10	mA
TEC current	ITEC			1.2	A
TEC voltage	VTEC			3.5	V

## Electrical Characteristics (Tc=25°C)

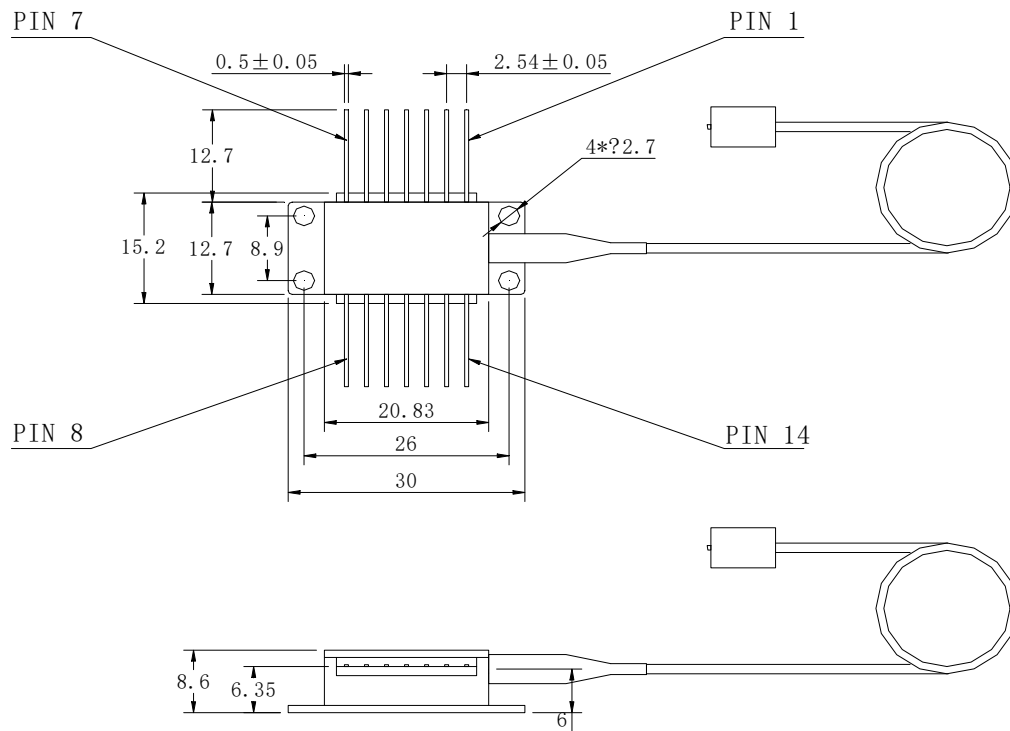
Parameter	Symbol	Min	Typ	Max	Unit
Forward voltage	Vop			2	V
Operating temperature	Top	-5		75	°C
Laser gain current	Ig			200	mA
Grating current	Ir			80	mA
Phase current	Ip			5	mA
Thermistor Resistance	Rth	9.5	10	10.5	kOhm
Thermistor sensitivity index	$\beta$		3892		K

## Optical Characteristics (TOP = -5 to 75°C)

Parameter	Symbol	Min	Typ	Max	Unit
Output power	Pmax			15	dBm
Wavelength Tuning Range			8	10	nm
Wavelength Range		1530		1580	nm
Channel spacing (ITU grid)			50 /100		GHz
Number of channels			24/12		
Side-mode suppression ratio	SMSR	40			dB
Linewidth	LW	2		5	MHz
Relative intensity noise	RIN			-135	dB/Hz
Optical isolation		30			dB

**Note:** Describe which standard ITU.T grid channel can be tuning. Wavelength can be tuned continuously.

## Outline Drawing



- 1). Unit: [mm]
- 2). Fiber length >1.2m

## Connection

Pin Assignments			
Pin	Function	Pin	Function
1	TEC (+)	8	Phase
2	Thermistor	9	Grating
3	MPD ANODE	10	NC
4	MPD CATHODE	11	LD Cathode (-)
5	Thermistor	12	NC
6	NC	13	Case Ground
7	Gain	14	TEC (-)