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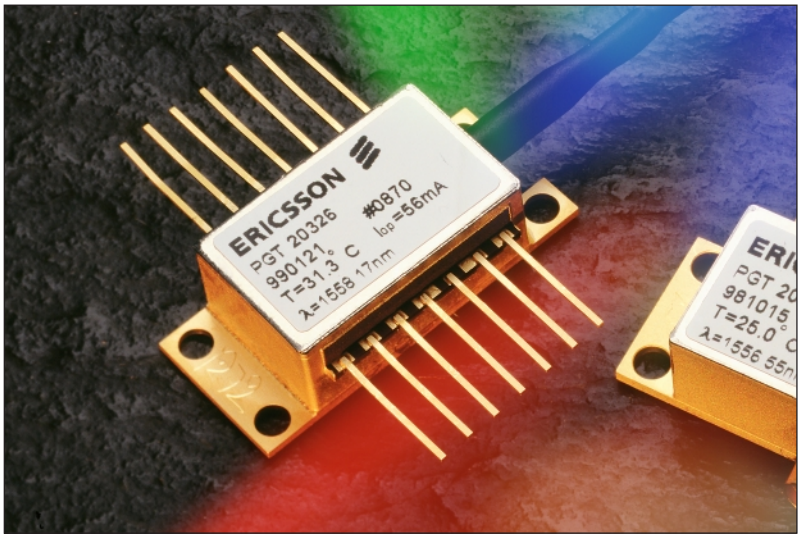
DFB/EA Laser Module for 2.5 Gb/s Applications

Key Features

- L-band DFB CW source monolithicly integrated with an Electro Absorption-modulator (EA)
- Hermetic, 14 pin butterfly package
- Single-mode fiber pigtail
- 4 GHz typical bandwidth
- -3 dBm output power

Applications

- 2.5 Gb/s
- L-band



Description

The laser module, intended for L-band DWDM applications at OC-48/STM-16, consists of a DFB laser with integrated absorption modulator mounted in a high speed package including isolator. Laser wavelengths are available according to the ITU-T grid.

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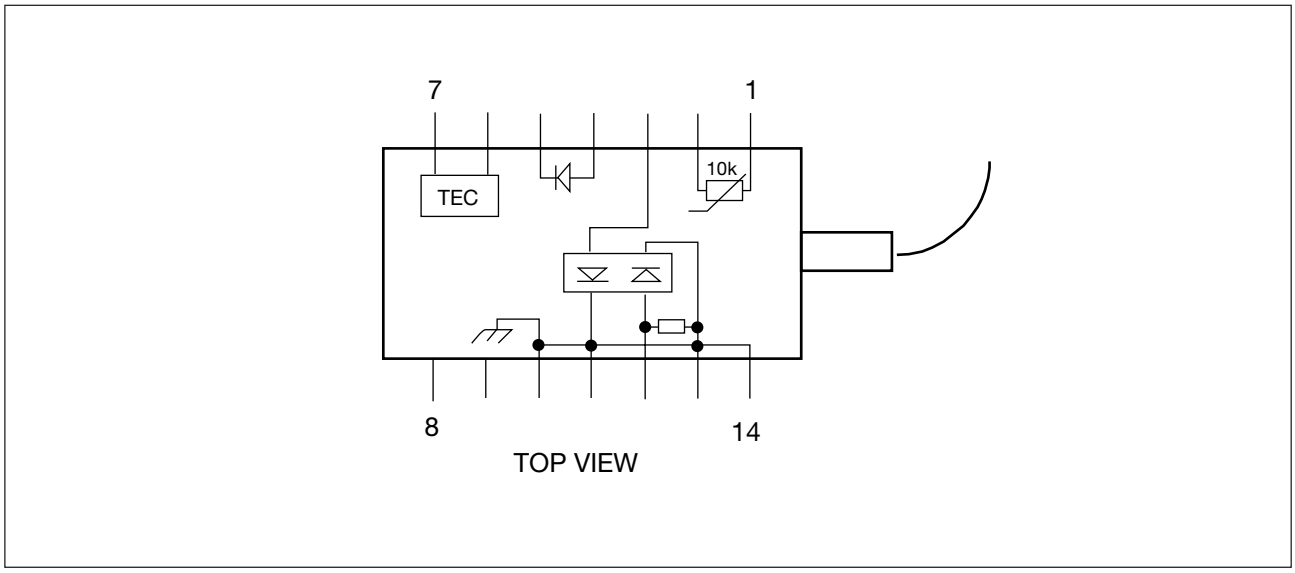
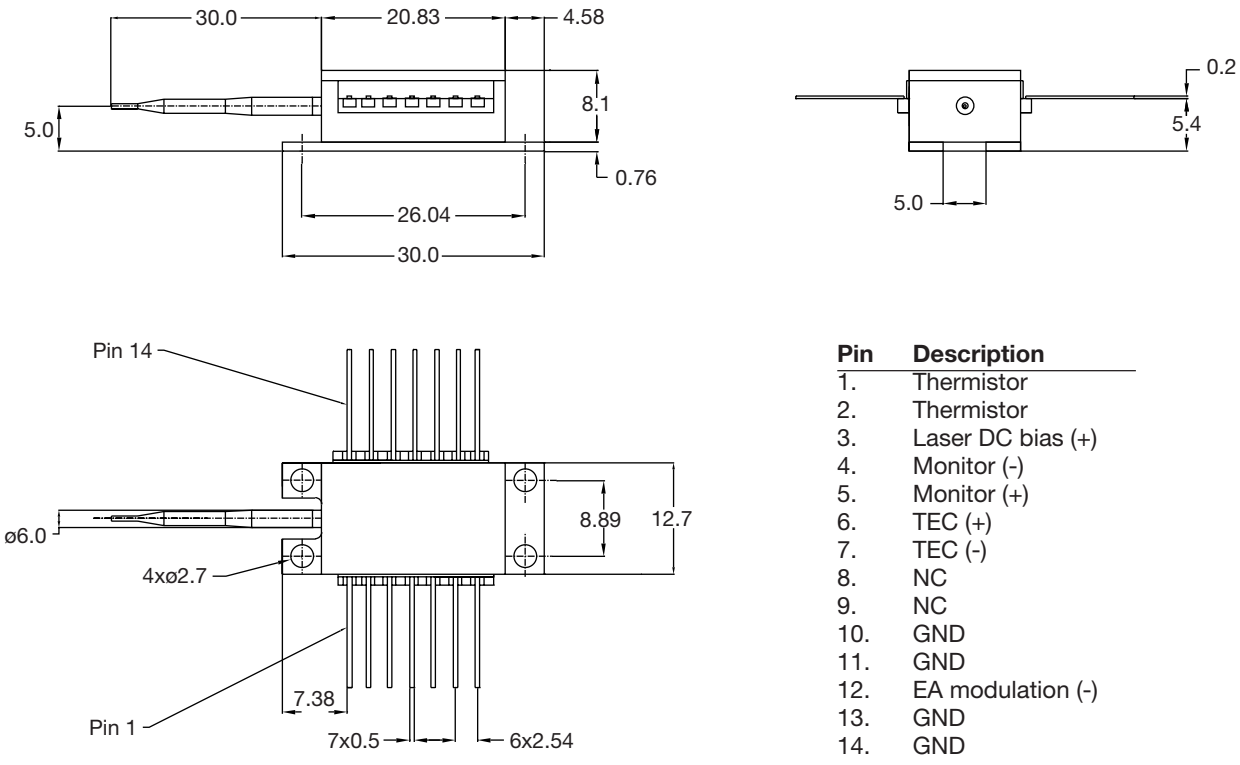


Figure 1. Block diagram



Pin	Description
1.	Thermistor
2.	Thermistor
3.	Laser DC bias (+)
4.	Monitor (-)
5.	Monitor (+)
6.	TEC (+)
7.	TEC (-)
8.	NC
9.	NC
10.	GND
11.	GND
12.	EA modulation (-)
13.	GND
14.	GND

Figure 2. Mechanical outline and pin description

Optical Characteristics

Electrical and optical characteristics at recommended operating conditions, unless otherwise noted.

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Wavelength		λ	1565		1615	nm
Output power	BOL	P_{out}	-3			dBm
Extinction ratio	2.5 V_{pp}	ER	10			dB
Dispersion penalty	@ 6500 ps/nm disp.				1.5	dB
Side mode suppr.ratio		SMSR	35			dB
Optical isolation			30			dB

Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Operating Current		I_{op}	50		100	mA
Treshold Current		I_{th}			25	mA
Forward Voltage		V_f			2	V
Reflection E/E	0-3 GHz	S_{11}			-10	dB
Small signal modulation bandwidth	-3 dB_e	f_C	3			GHz
Rise/Fall time	20/80%	t_r/t_f			125	ps
Monitor current			0.1		1	mA
Monitor dark current	-5 V			5	100	nA
Thermistor resistance	@ 25 °C		9.5		10.5	kΩ
TEC Voltage			-2.5		2.5	V
Current			-1.2		1.2	A
Power					3	W

Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T_{Case}	0		70	°C
Operating Chip Temperature	T_{op}	20		35	°C

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature, maximum duration 12 months	T_{Stg}	-40	85	°C
Laser forward current	I_{LD}		150	mA
Modulator voltage	V_{mod}	-4	1	V

CAUTION: *Stresses outside those listed in "Absolute Maximum Ratings" may cause permanent damage to the device.*

Handling Precautions

This device may be damaged as a result of electrostatic discharge (ESD). Take proper precautions during both handling and testing. This typically includes grounded wrist wraps, workbenches and floor mats in ESD controlled areas. Semiconductor devices may be damaged by current surges, use appropriate transient protection.

Quality Assurance

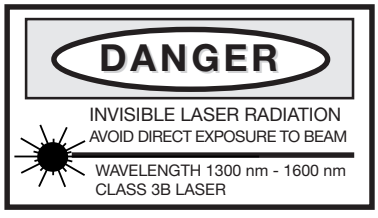
Ericsson Microelectronics commitment to quality has been proven through a decade of semiconductor device production and has been confirmed to ISO 9001. Opto product qualification is made according to the intention of applicable Telcordia standards.

Connector Options

FC/PC

SC

(Other connectors available on request)



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1522-PGT 203 26 Rev. B
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