

**EX-DY900X-X-X-X Butterfly Laser Module****REV 005**

Description

The EX-DY900X-W-X-X DFB laser is 14 PIN module with InGaAsP/InP MQW diode. The module is with stable high power up to 3.5 GHz bandwidth. It contains thermo-electric controller, power monitor, optical isolator and high speed matching circuits.

Key features

- ☐ 10-23 mW output power
- ☐ Internal TEC, thermistor & monitor PD
- ☐ Telcordia GR-468 compliant
- ☐ RoHS compliancy

Applications

- ☐ Analog and digital application

Absolute Maximum Rating:

Parameter	Sym.	Condition	Min	Max	Unit
Operating Case Temperature	T_c	$I=I_{op}$ non-WDM $I=I_{op}$ WDM	-20 -20	70 60	°C
Storage Temperature	T_{stg}	--	-40	85	°C
Laser Forward Current	CW	10 mW version 20 mW version	-	150 200	mA
Laser Reverse Bias	V_r	--	--	2	V
Photodiode Reverse Bias	V_{rpd}	--	--	10	V
TEC Current	I_{TEC}	--	--	1.7	A
TEC Voltage	V_{TEC}	--	--	4.0	V
Lead Soldering Temperature		--	--	260	°C
Lead Soldering Time		--	--	10	Sec



ExOptronics, Inc

www.exoptronics.com

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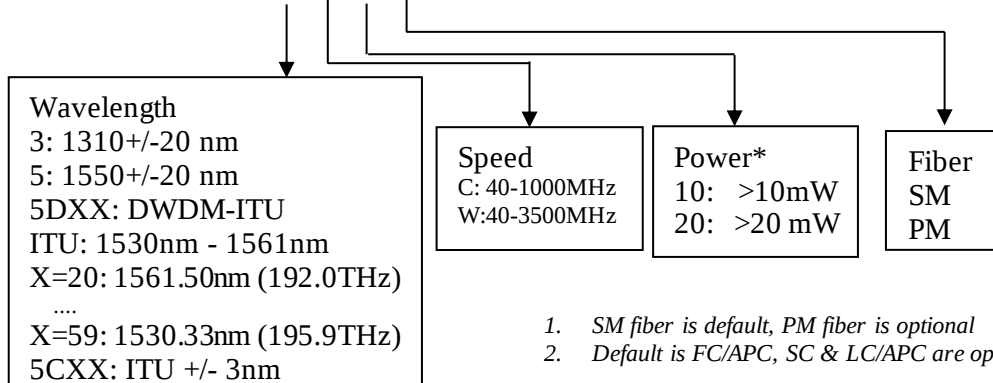
Fax: 310-579-6582

Electro-Optical Characteristics (Tested under Tc=25°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Threshold Current	I_{th}	25° C	-	10	30	mA
Output Power	P_f	$I_F=I_{op}$	5	-	-	mW
Laser Drive Current	I_{op}	900X-X-10 900X-X-20	-	-	85 175	mA
Center Wavelength	λ_c	$I=I_{op}$	See options			nm
LD Operating Temperature	T_λ	$I=I_{op}$	15	-	35	° C
Side Mode Suppression ratio	SMSR	$I=I_{op}$	30	45	-	dB
Monitor Current response	I_m/P_{LD}	$V_{TPD}=5V$	5		200	$\mu A/mW$
Cut off Frequency (Speed W series)	f_c $I=I_{op}$	-3dB C series	-	1	-	GHz
		-3dB W series	-	3.5	-	
Modulation bandwidth flatness	S_{21}	0.040-1GHz (Speed C series)	-0.5		0.5	dB
		1.9-2.2GHz (Speed W series)	-0.5		0.5	
Relative Intensity Noise	RIN	I_{op} (< 3.5GHz)	-	-	-155	dB/Hz
Optical return loss	ORL	-	40	-	-	dB
Optical Isolation	ISO	-	30	40	-	dB
Tracking Error	TE	(-20 to 70° C)	-0.5		0.5	dB
Thermistor Resistance	R_{TH}	$T_{op}=25^\circ C$	9.5	10	10.5	k Ω
Thermistor B Constant	B_{TH}	$T_{op}=25^\circ C$	-	3900	-	K
TEC current	I_{TEC}	(-20 to 70° C)		-	1.2	A

Ordering Options

EX-DY900X-X-X-X



1. SM fiber is default, PM fiber is optional
2. Default is FC/APC, SC & LC/APC are optional



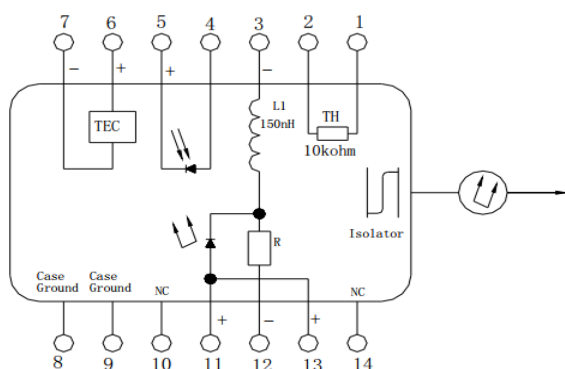
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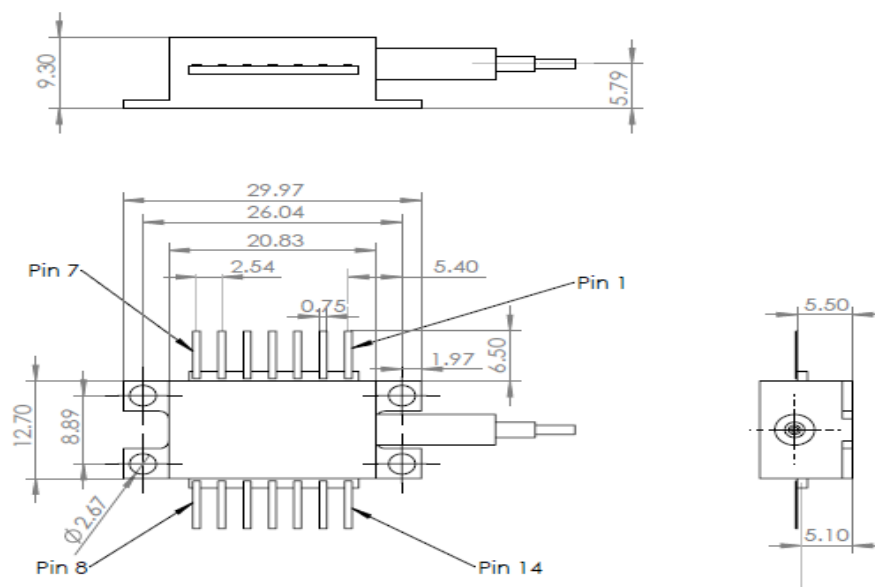
Electric Schematics



PIN Assignments			
PIN	Function	PIN	Fuction
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	DC laser Bias(-)	10	NC
4	MPD Anode	11	Laser Common(+), Case Ground
5	MPD Cathode	12	Laser Modulation(-)
6	TEC(+)	13	Laser Common(+), Case Ground
7	TEC(-)	14	NC

* $R=20\ \Omega$

Outline Drawing (unit: mm)



Safety Information



This product is a Class 3R Laser Product as defined by International Standard IEC 60825-1:2015 and EN60825-1:2014+A11:2021. Invisible Laser radiation is emitted from the end of the fiber or connector. Avoid direct eye exposure to the beam. Laser safety labels are not attached to the module due to space limitations but instead are affixed to the outside of the shipping carton.