LD1030 DFB Transmitter OSA

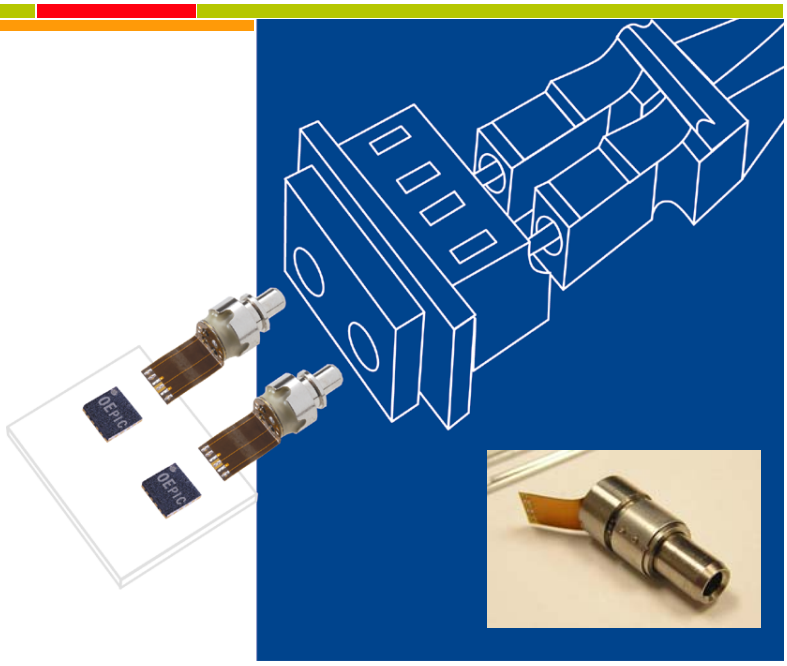
1310, 10Gb/s Front-End Chipset in TO-Flex™

Preliminary

FEATURES

- 1310nm 10 Gb/s uncooled DFB laser with a monitoring photodetector in an internally matched 10G TO-Flex™
- Data rates up to 12.5 Gb/s
- Designed for IEEE 10GBASE, SONET/ SDH and FC applications
- SC or LC connection to single-mode fiber with an optical isolator.

The LD1030 DFB Transmitter Optical Sub-Assembly consists of OEpic's 1310 nm DFB laser with an internal monitor photodiode. The device provides high performance up to 12.5 Gb/s and is available in an internally-matched 10 Gb/s TO-Flex package. It is anode driven with a 25-ohm signal line.



OPTICAL AND ELECTRICAL CHARACTERISTICS

(Temperature = 25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Wavelength	λ	1300	1310	1320	nm	
Average Optical Output	P_{out}	-1	0		dBm	
Side-Mode Suppression	SMSR	30	40		dB	
Threshold Current	I_{th}		12	15	mA	
Slope Efficiency	dP/dI	0.2	0.3		W/A	
Dynamic Resistance	dV/dI	25	30	35	Ω	
Rise / Fall Time	t_r / t_f		35/45		ps	
Jitter (rms, p-p)	t_j		3, 25		ps	
Operating Current 25°C (85°C)	I_{op}		26 (48)			1 mW output power
Bandwidth	BW	9.25	10		GHz	3-dB small-signal
Monitor Photocurrent	Id		300		μA	

OEpic offers the complete front-end solution for 10Gb/s 1310nm transceiver and transponder MSAs. The optical subassemblies use OEpic's successful **TO-Flex™** platform that accommodates any optical axis location and any electrical footprint. TOSAs are available with high spectral purity DFB lasers or with lower cost Fabry-Perot lasers both packaged with monitor diodes. ROSAs employ OEpic's high-speed InGaAs photodetectors with low power consumption TIAs.

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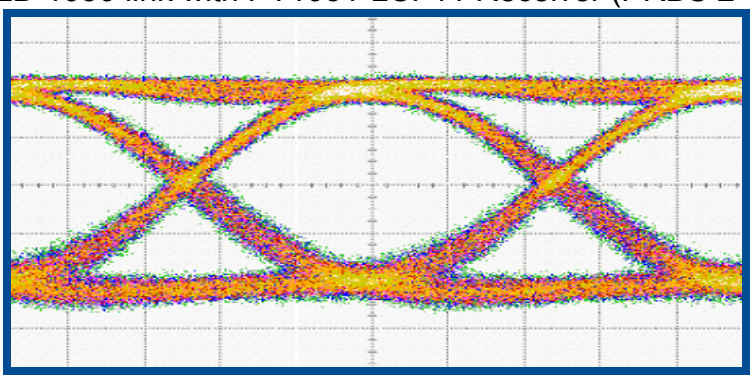
EYE DIAGRAM

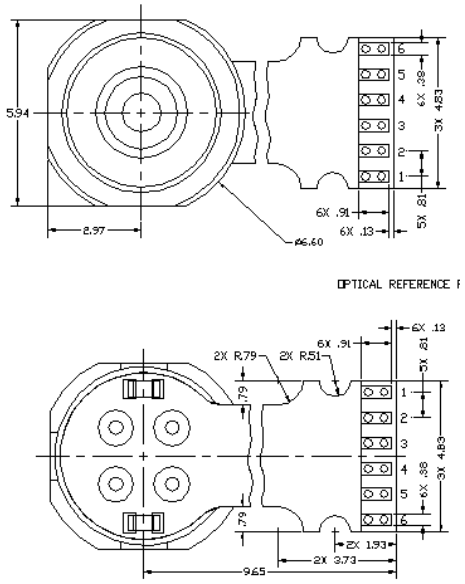
LD 1030 link with PT1031-LCF11 Receiver (PRBS 2^{31} –1):



Vertical Scale: 100 mV/div Horizontal Scale: 20ps/div

MECHANICAL SPECIFICATIONS

Pin No.	Function
1	Cathode Bias (RF Grounded)
2	Ground
3	Anode Bias & Signal
4	Ground
5	N/C
6	Monitor Diode
Note: Laser is anode-driven	



ABSOLUTE MAXIMUM RATINGS

Supply Current	80mA
Case Operating Temperature	0 - 85°C
Junction Temperature	175°C
Mounting Temperature	220°C
Input RF current swing	80mA

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