SFP 1G - LX - 31

MMF/SMF 1310NM 550M/ 10KM DOM TRANCEIVER LC

APPLICATIONS

Gigabit Ethernet Switches and Routers

Fiber Channel Switch Infrastructure

Ethernet/SDH/OTN Sonet

Other Optical Links

FEATURES

- Operating Data Rate up to 1.25Gbps
- 10km with 9/125 μm SMF
- 550m WITH 62/125 μM MMF
- 600m WITH 50/125 μM MMF
- Single 3.3V Power Supply and TTL Logic Interface
- Hot-Pluggable SFP Footprint Duplex LC Connector Interface
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Built-in digital diagnostic functions, including optical power monitoring
- Commercial Temperature Range: 0~+70℃
- Extended Temperature Range: -5~85℃
- Industrial Temperature Range: -40~85℃
- Compliant with MSA SFP Specification
- Compliant with SFF-8472

DESCRIPTIONS

The SFP1G-LX-31 series single-mode and multi-mode transceivers are small form factor pluggable module for bi-directional serial optical data communications such as Gigabit Ethernet 1000BASE-LX and Fiber Channel 1x -LC-L FC-PI. It is with the SFP 20-pin connector to allow hot plug capability. This module is designed for single mode fiber and operates at a nominal wavelength of 1310nm.

The transmitter section uses a multiple quantum well 1310nm laser and is a class 1 laser compliant according to International Safety Standard IEC-60825. The receiver section uses an integrated InGaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC. The SFP1G-LX-31 series are designed to be compliant with SFF-8472 SFP Multi-source Agreement (MSA).

PRODUCT SPECIFICATIONS

I. General Product Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
Bit Rate	BR			1.25	Gb/s
Max. Supported Link Length	L_{MAX}			10	km

II. Absolute Maximum Ratings

*Exceeding any one of these values may destroy the device immediately

Parameter	Symbol	Min	Max	Units
Storage Temperature	Ts	-40	+85	℃
Supply Voltage	Vcc	-0.5	3.6	V
Operating Relative Humidity		-	95	%

III. Optical and Electrical Characteristics

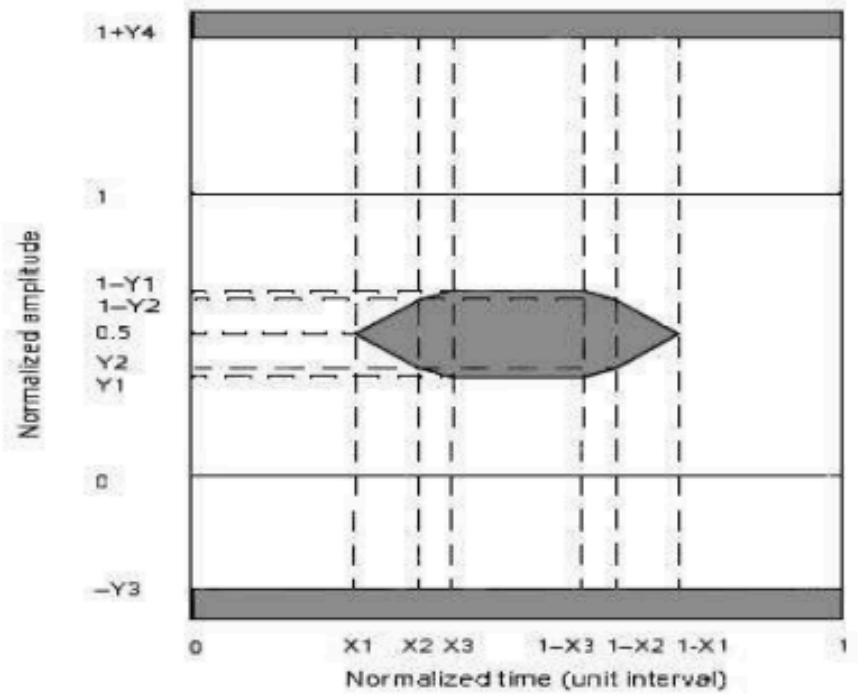
Parameter		Symbol	Min	Typ.	Max	Unit
9μm Diameter SMF 62.5/50μm Diameter MMF		L L		10 550		Km M
Power Supply Voltage		V_{CC}	3.15	3.3	3.45	V
Power Supply Current		I_{CC}			300	Ma
Date Rate	**GBE**			1.25		Gbps
	FC			1.063		
Transmitter						
Center Wavelength		λC	1260	1310	1360	nm
Spectral Width (RMS)		Δλ			4	nm
Average Output Power*(note1)		Pout	-9.5		-3	dBm
Extinction Ratio*(note2)		ER	9			Db
Rise/Fall Time(20%～80%)		tr/tf			0.26	ps
Total Jitter*(note2)		TJ			0.43	UI
Output Optical Eye*(note2)		IEEE802.3z and ANSI Fiber Channel Compliant*(note4)				
TX_Disable Assert Time		t_off			10	us
Pout@TX Disable Asserted		Pout			-45	dBm

Receiver

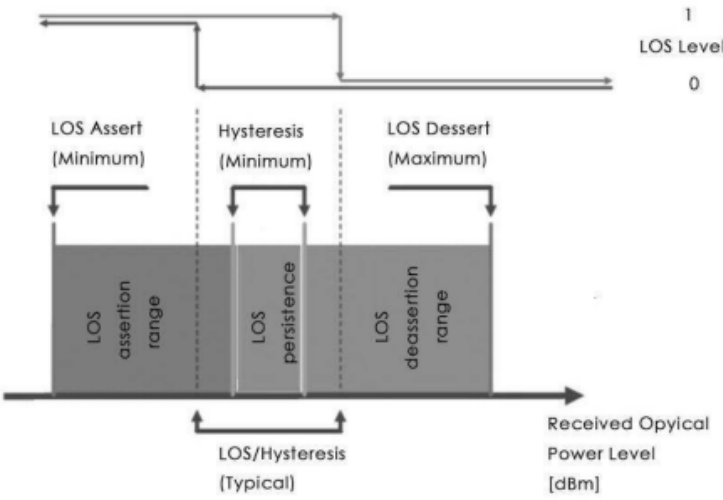
Center Wavelength	λC	1260		1600	nm
Receiver Sensitivity*(note3)	Pmin			-23	dBm
Receiver Overload	Pmax	-3			dBm
Return Loss		12			Db
LOS De-Assert	LOS_D			-22	dB
LOS Assert	LOS_A	-35			dBm
LOS Hysteresis*(note5)		0.5			Db

Notes:

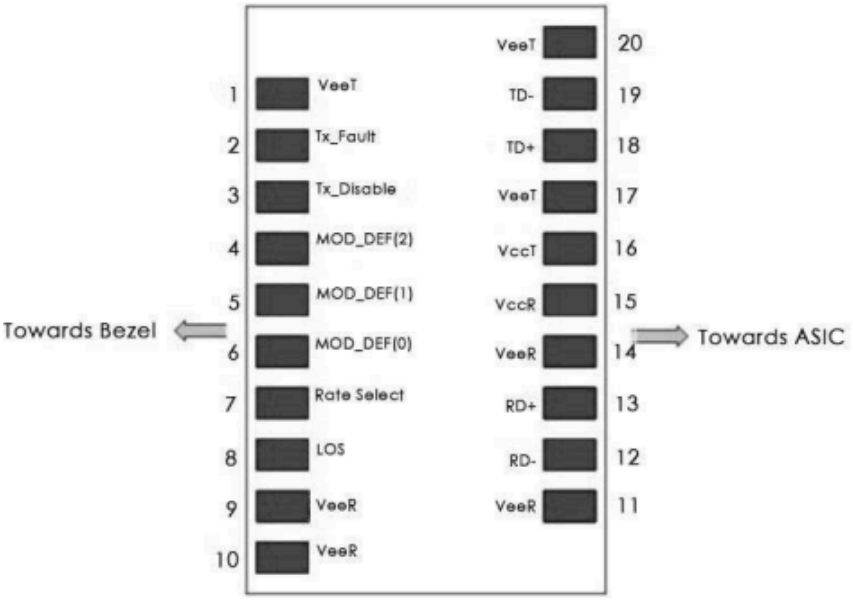
1. Output is coupled into a 9/125 μm single mode fiber.
2. Filtered, measured with a PRBS 27-1 test pattern @1.25Gbps
3. Minimum avera0ge optical power measured at BER less than 1E-12, with a 27-1 PRBS and ER=9 Db.
4. Eye Pattern Mask.



5. LOS Hysteresis



IV. Pin Description



PRODUCT DESCRIPTION