

Multi-Rate 1.25 – 6.25 Gb/s 1310 nm Single Mode, 2 km SFP+ Dual LC Connector



Description

OptixCom's multi-rate fiber optics transceiver is designed for data rate 1.25 to 6.25 Gb/s. This single mode module uses high performance 1310 nm FP laser and is compliant with Small Form Pluggable Plus (SFP+) specifications. The optical connector interface is dual LC.

The module is compliant with SFP+ Multi-Source Agreement (MSA). The transceiver reaches 2 km of distance with standard single mode fibers and 8 dB of power budget. The products are RoHS compliant. The total power consumption is < 1W.



Lead-Free

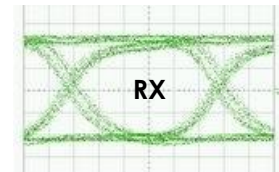
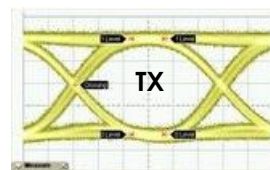
SFP-6250LX-AT2K



Key Features

- 1310 nm single mode
- Multi-rate from 1.25 to 6.25 Gb/s
- > 8 dB power budget, 2 km reach
- Duplex LC connector optical interface
- Z-axis hot pluggable
- SFF-8472 MSA Compliant
- AC coupling LVPECL differential I/O logics
- Single 3.3 V power supply
- -40–85 °C operating temperatures available
- TTL signal detect to monitor optical signals
- RoHS compliant

6.25 Gb/s, 2⁷-1 NRZ Data Eye Pattern



Applications

- ✓ Fiber Channel, Gigabit Ethernet
- ✓ High speed I/O for file server
- ✓ Video over fiber links
- ✓ Media converter
- ✓ Data Communication for SAN and LAN
- ✓ Industrial Control Link
- ✓ Central offices routers and switches
- ✓ Mass storage systems interconnect

Ordering Information

Part Number: SFP-6250LX-AT2K

Description:

1310 nm, 1 to 6.25 Gb/s, single mode, SFP+ fiber optics transceiver, 2 km reach, 0-70°C

* Add "-T" in the Part Number for extended temperature range -40–85 °C, i.e., SFP-6250LX-AT2K-T.

Operating Conditions

Parameter	Min.	Typical	Max.	Units
Operate Temperature	0	25	70	°C
- T Transceivers	-40	25	85	°C
Data Rate	1	---	6.25	Gb/s
Supply Voltage	3.15	3.3	3.45	V
Supply Current	---	220	300	mA

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Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	T_{st}	-40	85	°C
Supply Voltage	V_{cc}	-0.5	4.0	V
Input Voltage	V_{in}	-0.5	V_{cc}	V
Output Current	I_o	---	50	mA
Soldering Temperature (10 sec. on leads)	T_{sd}	---	260	°C

Transmitter Electro-Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Differential Input Voltage ¹	ΔV_i	0.2	---	0.8	V
Differential Input Impedance ²	Z	---	100	---	ohm
Optical Output Power ³	P_o	-6.0	---	-0.5	dBm
Optical Wavelength	λ_o	1284	1310	1345	nm
Relative Intensity Noise	RIN	---	---	-128	dB/Hz
Extinction Ratio	ET	4	---	---	dB
TX Disable Power	P_{TD}	---	---	-30	dBm
Spectral Width (rms)	$\Delta\lambda$	---	---	1	nm
TX Disable Voltage – High	V_{DH}	2.4	---	V_{cc}	V
TX Disable Voltage - Low	V_{DL}	0	---	0.5	V
TX Fault Output - High	V_{FH}	2.4	---	V_{cc}	V
TX Fault Output - Low	V_{FL}	0	---	0.5	V
TX Disable Assert Time	T_{ass}	---	---	10	μs
TX Disable Deassert Time	T_{disass}	---	---	1.0	ms
Time to Initialize	T_{as}	---	---	300	ms
TX Fault from Fault to Assertion	T_{fault}	---	---	100	μs
TX Disable Time to Start Reset	T_{reset}	10	---	---	μs

Notes:

1. Applied to AC LVPECL I/O coupling. See the design guide for proper termination.
2. Single ended will be 50 ohm for each signal line.
3. Output of coupling optical power into 9/125 μm SMF.

Class 1 Laser Product
Complies with
21 CFR 1040.10 and 1040.11



Receiver Electro-Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Differential Input Impedance	Z	---	100	---	Ohm
Differential Output Voltage ¹	ΔV_o	0.4	---	0.8	V
Operating Wavelength	λ_c	1260	1310	1360	nm
Receiver Overload	P_{max}	+0.5	---	---	dBm
Receiver Sensitivity ²	P_I	---	---	-14.4	dBm
Receiver Sensitivity in OMA	P_{IOMA}	---	---	-12.6	dBm
Stressed Receiver Sensitivity ² (OMA)	P_I	---	---	-10.3	dBm
Optical Return Loss	OL	12	---	---	dB
RX Signal Loss – Deasserted	P_{RL-}	-30	---	---	dBm
RX Signal Loss – Asserted	P_{RL+}	---	---	-16	dBm
Signal Detect Hysteresis	$P_{RL+} - P_{RL-}$	0.5	---	---	dB
RX Signal Loss Assert Time	T_{RL+}	---	---	100	μ s
RX Signal Loss Deassert Time	T_{RL-}	---	---	100	μ s
RX Signal Loss Output - High	V_{RL+}	2.4	---	V_{cc}	V
RX Signal Loss Output - Low	V_{RL-}	0	---	0.5	V

Notes:

1. Applied to AC LVPECL I/O coupling. See the design guide for proper termination.
2. Test at 6.25 Gb/s, 2⁷ – 1 PRBS data pattern, and > 1x10⁻¹² of Bit-Error-Rate (BER)

Class 1 Laser Product
Complies with
21 CFR 1040.10 and 1040.11

