Multi-Rate 155 Mb/s – 2.7 Gb/s
1310 nm Single mode, 5 – 50 km
SFP Dual LC Connector

OptixCom
Connect with Light
Small Form Pluggable (SFP) Transceivers

Description

OptixCom's multi-rate fiber optics transceiver is designed for OC3/OC12/FC/GbE/2xFC/OC48 applications with data rate up to 2.7 Gb/s. This single mode module uses high performance 1310 nm laser and is compliant with Small Form Pluggable (SFP) specifications.

The module is compliant with SFP Multi-Source Agreement (MSA). The transceiver reaches 5 - 50 km of distance with standard single mode fibers and 11 - 26 dB of power budget. The products are RoHS compliant.

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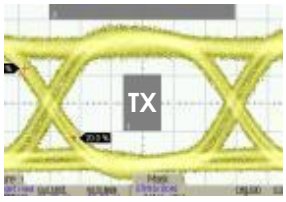
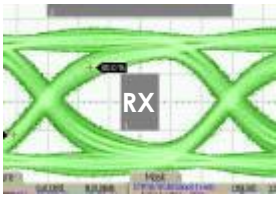
SFP-2670LX-AT*XX*K
(*XX* = 5, 20, 50)

Key Features

- 1310 nm single mode
- Multi-rate 155 Mb/s to 2.67 Gb/s
- 5 – 50 km with 11 – 26 dB power budget
- Duplex LC connector optical interface
- Z-axis hot pluggable
- AC coupling LVPECL differential I/O logics
- SFF-8472 MSA Compliant with DDM function
- TTL Signal detect to monitor optical signals
- Single 3.3 V power supply
- RoHS compliant

2.5 Gb/s, 2^{23}-1 NRZ Data Eye Pattern





Applications

- ✓ OC3/OC12/FC/GbE/2xFC/OC48
- ✓ High speed I/O for file server
- ✓ Media converter
- ✓ Data Communication for SAN and LAN
- ✓ Bus extension
- ✓ Central offices routers and switches
- ✓ Mass storage systems interconnect
- ✓ Computer cluster cross-connect

Ordering Information

Part Number: SFP-2670LX-AT***XX***K

Description:

1310 nm single mode, multi-rate 155Mb/s - 2.7 Gb/s SFP Transceiver, ***XX*** km reach. 0 - 70°C.

Operating Conditions

Parameter	Min.	Typical	Max.	Units
Operate Temperature	0	25	70	°C
Data Rate	---	---	2.67	Gb/s
Supply Voltage	3.1	3.3	3.5	V

U.S.A. Office: Optix Communications, Inc.
17901 Von Karman Avenue, Suite 600,
Irvine, CA 92614
Tel: (949) 679-5712 Fax: (949) 420-2134

http://www.OptixCom.com
http://www.OpticalTransceiver.com
Email: Support@OptixCom.com

Germany Office: OptixCom GmbH
Freiherr vom Stein Strasse 19, 60323
Frankfurt am Main, Germany
Tel: +49 (0)69 7953-3646

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	*Tst*	-40	85	°C
Supply Voltage	*Vcc*	-0.5	5.0	V
Input Voltage	*VIN*	-0.5	*Vcc*	V
Operating Current	*Iop*	---	400	mA
Output Current	*Io*	---	50	mA
Soldering Temperature (10 sec. on leads)	*Tsd*	---	260	°C

General Transmitter Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Differential Input Voltage [1]	*ΔVi*	0.4	---	2.0	V
Differential Input Impedance [2]	*Z*	---	100	---	ohm
Relative Intensity Noise	*RIN*	---	---	-120	dB/Hz
Rise/Fall Time (20% - 80%)	*Tr/Tf*	---	---	160	ps
Total Jitter	*Tj*	---	---	0.1	UIp-p
TX Disable Asserted	*POFF*	---	---	-45	dBm
TX Fault Output - High	*VFH*	2.4	---	*Vcc*	V
TX Fault Output - Low	*VFL*	0	---	0.5	V
TX Disable Voltage – High	*VDH*	2.4	---	*Vcc*	V
TX Disable Voltage - Low	*VDL*	0	---	0.5	V
TX Disable Assert Time	*Tass*	---	---	10	µs
TX Disable Deassert Time	*Tdisass*	---	---	1.0	ms
Time to Initialize	*Tas*	---	---	300	ms
TX Fault from Fault to Assertion	*Tfault*	---	---	100	µs
TX Disable Time to Start Reset	*Treset*	10	---	---	µs

Notes:

1. Module is designed for AC coupling. DC voltage will be filtered by internal capacitor.
2. Single ended will be 50 ohm for each signal line.

Class 1 Laser Product
Complies with
21 CFR 1040.10 and 1040.11

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General Receiver Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Differential Output Voltage [1]	ΔV_O	0.5	---	1.2	V
Differential Input Impedance [2]	Z	---	100	---	Ohm
Optical Return Loss	OL	27	---	---	dB
Rise/Fall Time	Tr/Tf	---	---	250	ps
RX Signal Loss Output - High	V_{RL+}	2.4	---	V_{CC}	V
RX Signal Loss Output - Low	V_{RL-}	0	---	0.5	V
RX Signal Loss Assert Time	T_{RL+}	---	---	100	µs
RX Signal Loss Deassert Time	T_{RL-}	---	---	100	µs
Serial ID Clock Rate	f_C	---	---	100	kHz

Notes:

1. Module is designed for AC LVPECL coupling. See the design guide for proper termination.
2. Single ended will be 50 ohm for each signal line.

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Transmitter Electro-Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Optical Output Power [1]	P_O	-5	---	0	dBm
Optical Wavelength	λ_O	1280	1310	1355	nm
Extinction Ratio	*ET*	8.2	---	---	dB
Spectral Width (-20 dB)	$\Delta\lambda$	---	---	1	nm
Side Mode Suppression Ratio	*SMSR*	30	---	---	dB

Receiver Electro-Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Operating Wavelength	λ_C	1260	---	1610	nm
Receiver Overload	P_{max}	0	---	---	dBm
Receiver Sensitivity [2]	P_I	---	---	-20	dBm
RX Signal Loss – Asserted	P_{RL+}	---	---	-20	dBm
RX Signal Loss – Deasserted	P_{RL-}	-30	---	---	dBm

Notes:

1. Output of coupling optical power into 9/125 μm SMF.
2. Test at 2.5 Gb/s, $2^7 - 1$ PRBS data pattern, and > $1x10^{-12}$ of Bit-Error-Rate (BER).
3. Optical eye diagram is compliant with IEEE 802.3z standard.
4. Maximum supply current for the transceiver from Vcc is 300 mA.

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