1.25 Gb/s, 1310 nm Single Mode, 10 – 50 km 1x9 Dual SC Package

OptixCom Connect with Light

1x9 Dual SC (DSC) Transceivers

Description

OptixCom's 1x9 DSC transceiver provides a low cost and compact solution for general data communication links. This single mode transceiver is designed with high performance 1310 nm laser. Dual SC connectors are used as the standard interface.

The transceiver modules use industry standard 1x9 pluggable package. This product can be used at 1.0625 Gb/s for Fiber Channel or 1.25 Gb/s for Gigabit Ethernet applications with 10 - 50 km transmission distance with single mode fibers. The products are RoHS compliant.

Lead-Free

DSC-1250LX-AT*XX*K
(*XX* = 10, 40, 50)

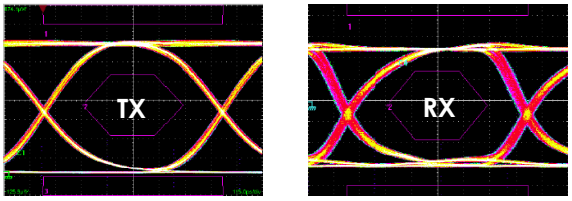
Key Features

- 1310 nm single mode, 1.0625/1.25 Gb/s data rates
- 10 – 50 km reach, 11 – 24 dB power budget
- Duplex SC connector optical interface
- Industry standard 1x9 pluggable package
- AC coupling LVPECL differential I/O logics
- Single 3.3/5 V power supply
- TTL signal detect to monitor optical signals
- IEEE 802.3z Gigabit Ethernet standard compliant
- 1X Fiber Channel standard compliant
- -40–85 °C operating temperatures available
- RoHS compliant

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
- ✓ Computer cluster cross-connect

1.25 Gb/s, 2^7-1 NRZ Data Eye Pattern



Ordering Information

Part Number: DSC-1250LX-AT***XX***K

Description:
1310 nm 1.0625/1.25 Gb/s, single mode, 1x9 DSC Fiber Optics Transceiver, ***XX*** km reach, 0-70°C

* Add "-T" in the Part Number for extended temperature range -40–85 °C, i.e., DSC-1250LX-AT10K-T.

Operating Conditions

Parameter	Min.	Typical	Max.	Units
Operate Temperature	0	25	70	°C
- T Transceivers	-40	25	85	°C
Data Rate	---	1.25	1.3	Gb/s
Supply Voltage	3.1	3.3	5.25	V

Phone: (949) 679-5712 Fax: (949) 420-2134
17901 Von Karman Avenue, Suite 600,
Irvine, CA 92614, USA
Email: Support@OptixCom.com

http://www.OptixCom.com
http://www.OpticalTransceiver.com

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	*Tst*	-40	85	°C
Supply Voltage	*Vcc*	-0.5	4.0	V
Input Voltage	*VIN*	-0.5	Vcc	V
Operating Current	*Iop*	---	500	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*	0.3	---	1.6	V
Differential Input Impedance [2]	*Z*	---	100	---	ohm
Relative Intensity Noise	*RIN*	---	---	-120	dB/Hz
Rise/Fall Time (20% - 80%)	*Tr/Tf*	---	---	260	ps
Data Input Current - High	*IIH*	---	---	350	µA
Data Input Current - Low	*IIL*	-350	---	---	µA
Side Mode Suppression Ratio	*SMSR*	30	---	---	dB
Total Jitter	*Tj*	---	---	227	ps

General Receiver Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Differential Output Voltage [1]	*ΔVo*	0.3	---	1.6	V
Differential Input Impedance [2]	*Z*	---	100	---	Ohm
Optical Return Loss	*OL*	12	---	---	dB
Rise/Fall Time (20% - 80%)	*Tr/Tf*	---	---	350	ps
Signal Detect Hysteresis	*PSD+ - PSD*	1	---	---	dB
Signal Detect Output - Low	*VSD-*	0	---	0.5	V
Signal Detect Output - High	*VSD+*	2.4	---	Vcc	V

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	-4	---	+3	dBm
Optical Wavelength	λ_O	1280	1310	1340	nm
Extinction Ratio	ET	7	---	---	dB
Spectral Width (-20 dB)	$\Delta\lambda$	---	---	1	nm

Receiver Electro-Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Units
Operating Wavelength	λ_C	1260	---	1610	nm
Receiver Overload	P_{max}	-3	---	---	dBm
Receiver Sensitivity [2]	P_I	---	---	-24	dBm
Signal Detect– Asserted	P_{SD+}	---	---	-24	dBm
Signal Detect– Deasserted	P_{SD-}	-35	---	---	dBm

Notes:

1. Output of coupling optical power into 9/125 μm SMF.
2. Test at 1.25 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 for 3.3V and 400 mA for 5V.

Class 1 Laser Product
Complies with
21 CFR 1040.10 and 1040.11

Underwriters Laboratories

TÜVRheinland

Lead-Free

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