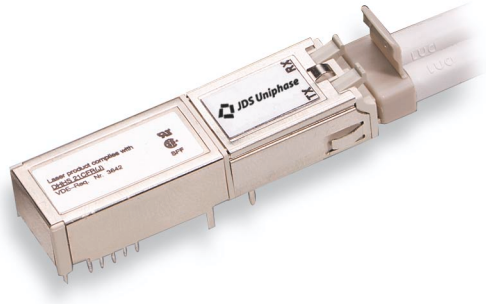
JDS Uniphase

Product Bulletin



Ethernet Small Form Factor Optical Transceivers

JDS Uniphase second generation, laser based Ethernet small form factor (SFF) optical transceivers are designed for a wide range of networking applications that require high port densities and performance, and decreased power consumption.

These compact units are particularly well suited for Gigabit Ethernet applications. For communication systems, they are used throughout Ethernet connections -- from servers, routers, hubs, and switches to network attached storage. They are also integrated into network interface cards and provide data transmission for Internet and e-mail service.

Ethernet small form factor (SFF) optical transceivers are available with a choice of Vertical Cavity Surface Emitting Laser (VCSEL) short wave and Fabry-Perot long wave lasers.

All products are International Class 1 laser safety approved.

Key Features

- Small footprint
- Available in two pin lengths
- VCSEL short wave laser
- Fabry Perot long wave laser
- Low loss LC connector
- Bit error rate less than 10^{-12}

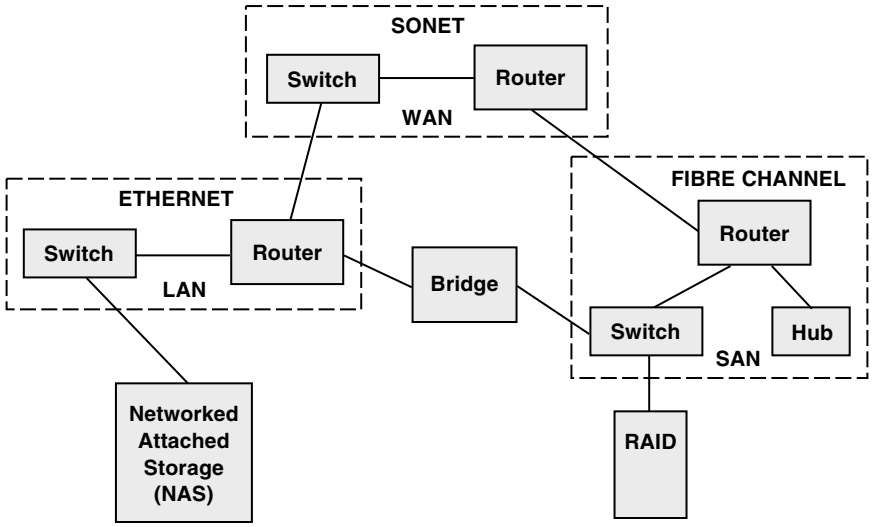
Applications

- Ethernet
- 1394b applications

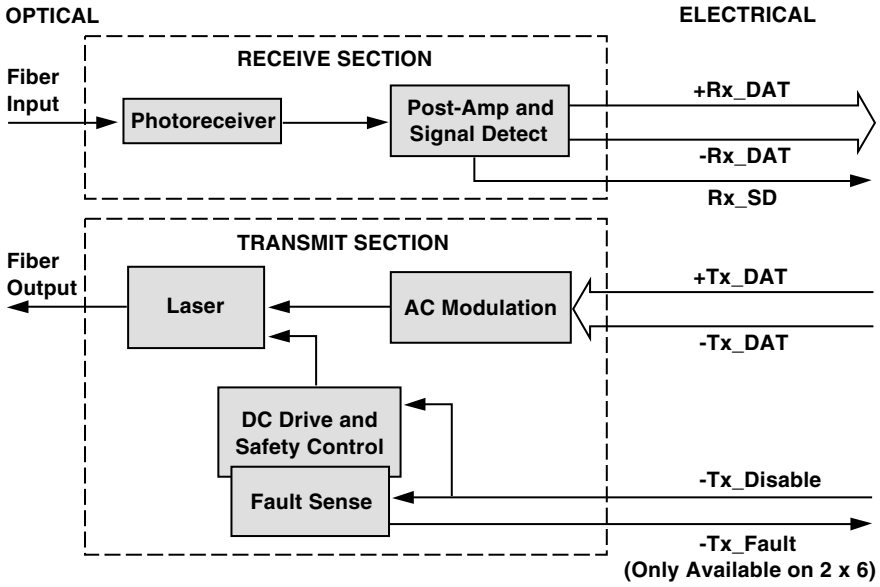
Compliance

- IEEE 802.3z 1000 base-SX stand [3]

Segment Architecture



Small Form Factor Transceiver Block Diagram



Specifications

Parameter	Specification
Electrical Interface	
Transmit signal input differential swing	400 to 2000 mV_{p-p}
Transmit signal input impedance	100 Ω nominal
Receive signal output differential swing	600 to 1000 mV_{p-p}
Receive signal output differential impedance	100 Ω nominal
Control I/O signals	TTL
Optical	
Data rate	1.250 Gb/s
Short wavelength	850 nm
Long wavelength	1310 nm
Maximum launch power into fiber (average)	-4.0 dBm
Minimum launch power into fiber (average)	-10.0 dBm
Receiver optical modulation amplitude (OMA)— 1.0625 Gb/s	31 to 2000 µW
Receiver optical modulation amplitude (OMA)— 2.125 Gb/s	49 to 2000 µW
Power	
Voltage	3.3 V ± 5%
Current	200 mA maximum
Environmental	
Operating temperature	0 to 70 °C
Operating humidity	8 to 80% RH
Storage temperature	-40 to 85 °C
Mechanical	
Short wavelength 50/125 µm optical fiber distance (1.25 Gb/s)	550 m maximum
Short wavelength 62.5/125 µm optical fiber distance (1.2 Gb/s)	275 m maximum
Long wavelength 9/125 µm optical fiber distance (1.25 Gb/s)	10,000 m maximum
Dimensions (W x D x H)	
Pin through hole (PTH)	13.5 x 49.5 x 9.8 mm
Hot pluggable	13.5 x 56.5 x 8.6 mm
Form factor	Small form factor, LC connector, 2x5 or 2x6 pin through hole (PTH) and hot-pluggable (SFP) configuration
Laser Safety	
US	DHHS 21 CFR(J) conformant and UL
International	IEC 825-1 conformant and CSA
Reliability	
Average failure rate (AFR)	<0.01%/1,000 hours (50 °C)
Maximum bit error rate at minimum receiver sensitivity	$<10^{-12}$

Ordering Information

For more information on this or other products and their availability, please contact your local JDS Uniphase account manager or JDS Uniphase directly at 800-871-8537 in North America and 800-8735-5378 worldwide or via e-mail at jdsu.sales@jdsu.com.

JDS Uniphase

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