

Product Bulletin



The JDS Uniphase Gigabit 1×9 optical transceiver is a state-of-the-art component designed specifically for high-speed, bi-directional communication links that require data rates of up to 1.25 Gb/s. It is highly reliable and enables low-cost data transmission over optical fibers at distances of up to 500 m at 1.0625 Gb/s and 550 m at 1.25 Gb/s.

The transceiver interfaces to the host card and works with industry standard serializer/de-serializer modules. It is encased in a low electromagnetic interference (EMI) metallic package with an innovative, patented flip-chip ball grid array (BGA) interconnection technology.

Each transceiver includes a single, highly integrated silicon chip that contains high-speed laser driver/control circuits and postamplifier/signal detect circuits. This single-chip implementation results in a high performance, compact, cost effective solution.

Gigabit 1×9 Optical Transceiver

Key Features

- 1.0625 Gb/s or 1.25 Gb/s data rates
- Short wavelength (SW) transmission up to 550 m
- Gigabit electrical serial interface
- Compatible with +3.3 V or +5 V power supplies
- Low bit error rate
- Low jitter, EMI, and power dissipation

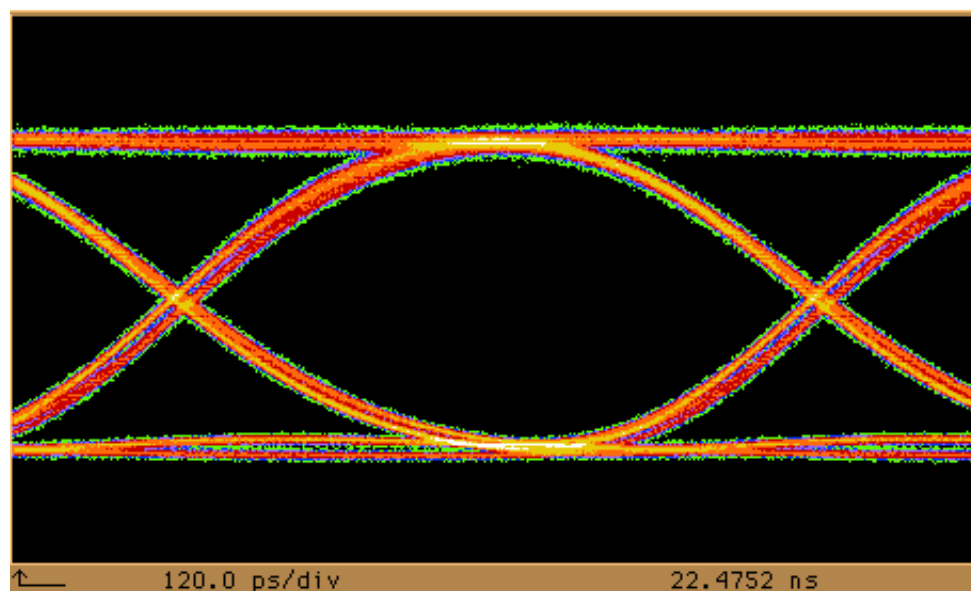
Applications

- Fibre Channel
- Distributed multi-processing
- Gigabit Ethernet
- Data storage (SANs)
- Client/Server

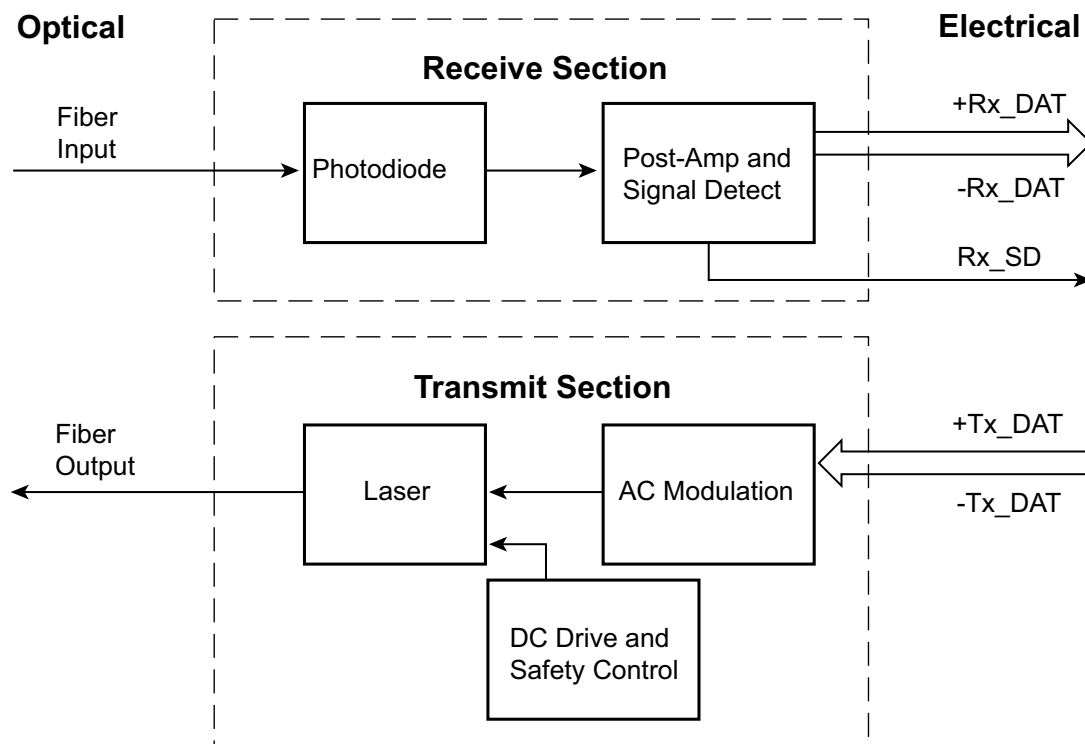
Compliance

- International Class 1 laser safety certified
- (ANSI) Fibre Channel compliant
- (IEEE 802.3) Gigabit Ethernet compliant
- UL and CSA approved

Transmit Eye Diagram for a Typical Link Transmitting at 1.25 Gb/s



Gigabit 1x9 Optical 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 line to line, 50 Ω line to ground
Receive signal output differential swing	800 to 1600 mV _{P-P}
Receive signal output differential impedance	100 Ω nominal line to line, 50 Ω line to ground
Control I/O signals	TTL
Optical	
Data rate	1.0625 or 1.25 Gb/s
Laser wavelength	850 nm nominal
Maximum launch power in fiber (average)	-5.0 dBm
Minimum launch power in fiber	-9.5 dBm
Maximum receiver input (average)	0.0 dBm
Minimum receiver sensitivity (average)	-17.0 dBm
Power	
Voltage	3.3 V \pm 5% or 5.0 V \pm 5%
Current	300 mA maximum
Environmental	
Operating temperature (case)	0 to 70 °C
Operating humidity	8 to 80% RH
Storage temperature	-40 to 85 °C
Mechanical	
Dimensions (W x D x H)	25.4 x 39.6 x 9.8 mm
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)
Bit error rate	<10 ⁻¹² at -17 dBm

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.



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