



### Features and Benefits

- Compliance with all Gigabit Ethernet (IEEE 802.3z) standards
- Data rates up to 1.25 Gb/s
- Industry standard 1x9 pin configuration and duplex SC connectors
- Link distances < 550m
- Single +5V power supply
- ECL/PECL compatible
- Size: 25.91mm x 39.62mm x 9.78mm
- Excellent eye pattern
- DC coupled data input & outputs
- AC coupled version also available

### Applications

- Data communication networks
- Telecommunications networks
- Broadband deployments
- Cross-connects
- ATM switches
- Disk array links
- Workstation & mainframe backbones
- Network interface cards

## Gigabit Ethernet Link (DC Coupled)



The Molex Ethernet Link is a compact optical transceiver capable of serial gigabit transmission over inexpensive multi-mode fiber for distances up to 550m. Molex's Gigabit Ethernet Link transmits data at speeds of 100 Mb/s to 1.25 Gb/s, enabling use in Gigabit Ethernet, Fibre Channel, ATM and proprietary data interconnect systems. Higher speed versions of this device (up to 1.5 Gb/s) are available upon request. It features an industry standard 1x9 pin configuration and dual SC connectors. Molex also offers a AC coupled version of this device.

Molex's emphasis on safety allows this product to meet all CDRH and IEC 825-1 Class 1 eye safety requirements. Molex offers a level of safety unparalleled within the industry with the addition of our unique optional shutter mechanism.

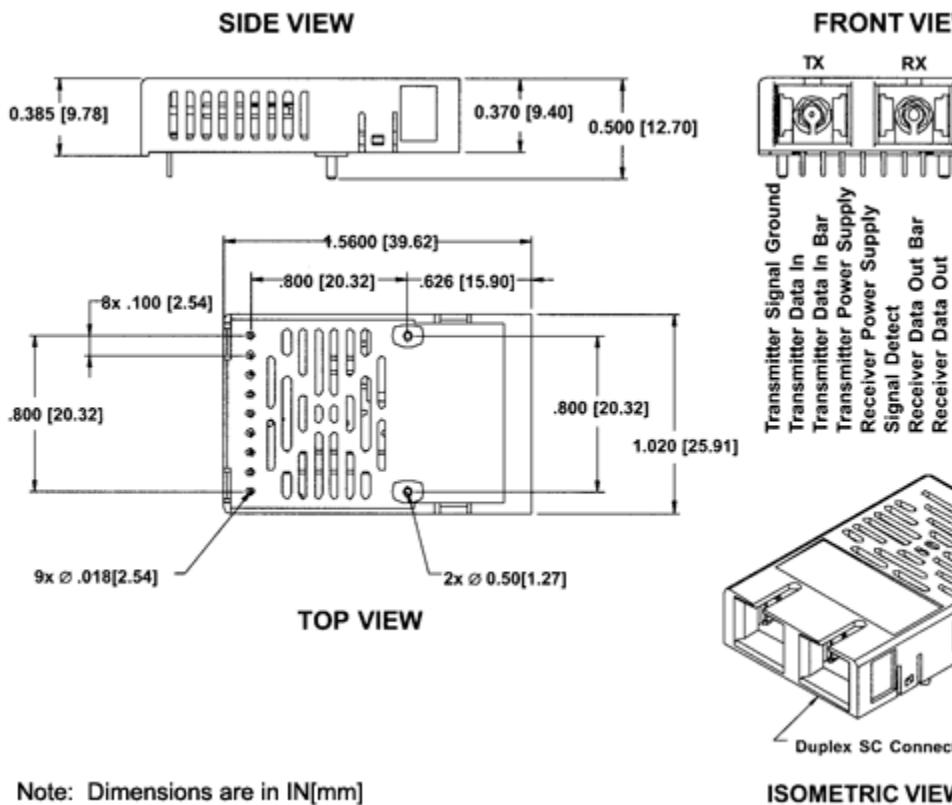
## SPECIFICATIONS

Parameter	Symbol	Min	Typ	Max	Unit	Comments
<b>Data Rate</b>	-	0.100	-	1.25	Gb/s	-
<b>Maximum Fiber Length</b>	-	2	-	550	m	50um core / 500 MHz-km fiber
<b>Input Voltage</b>	V <sub>cc</sub>	+4.75	+5	+5.25	V	Vcc referenced to GND
<b>Supply Current (transmitter)</b>	I <sub>TX</sub>	-	-	110	mA	-
<b>Supply Current (receiver)</b>	I <sub>RX</sub>	-	-	60	mA	-
<b>Data In High</b>	V <sub>IN-H</sub>	V <sub>cc</sub> 1.165	-	-	V	DC Coupled PECL Levels
<b>Data In Low</b>	V <sub>IN-L</sub>	-	-	V <sub>cc</sub> 1.475	V	DC Coupled PECL Levels
<b>Data Out High</b>	V <sub>OUT-H</sub>	V <sub>cc</sub> 1.045	-	-	V	DC Coupled PECL Levels
<b>Data Out Low</b>	V <sub>OUT-L</sub>	-	-	V <sub>cc</sub> 1.620	V	DC Coupled PECL Levels
<b>Transmitter Center Wavelength</b>	$\lambda_{TX}$	770	785	860	nm	-
<b>Transmitter Spectral Width (RMS)</b>	$\Delta \lambda$	-	-	0.85	nm	-
<b>Transmitter Optical Output Power</b>	P <sub>o</sub>	-10	-	-5	dBm	Average Power
<b>Transmitter Extinction Ratio</b>	-	9	-	-	dB	-
<b>Transmitter Eye Opening</b>	-	57	-	-	%	-
<b>Duty Cycle</b>	-	-	50	-	%	-
<b>Bit Error Rate</b>	BER	-	-	-12 10	-	-
<b>Jitter</b>	-	-	-	-	-	IEEE 802.3z, Table 38-7 Compliant
<b>Optical Input Wavelength</b>	$\lambda_{RX}$	770	785	860	nm	-
<b>Optical Input Sensitivity</b>	P <sub>I</sub>	-18	-	-	dBm	-
<b>Signal Detect Asserted</b>	P <sub>a</sub>	-	-18	-	dBm	Measured on low-to-high transition
<b>Signal Detect Deasserted</b>	P <sub>d</sub>	-	-21	-	dBm	Measured on high-to-low- transition
<b>Signal Detect Hysteresis</b>	P <sub>a</sub> - P <sub>d</sub>	-	3	-	dB	-
<b>Operating Temperature</b>	T <sub>OP</sub>	0	-	+70	°C	-
<b>Storage Temperature</b>	T <sub>STORE</sub>	-40	-	+85	°C	-
<b>Relative Intensity Noise</b>	RIN	-	-	-117	dB/mHz	-
<b>Eye Safety</b>	-	-	-	-	-	Class 1 Laser Product
<b>Optical Rise/Fall Time</b>	P <sub>r</sub> / P <sub>f</sub>	-	-	210	ps	20% - 80%

## DIMENSIONS

### Gigabit Ethernet Link (DC Coupled)

Note: All dimensions in INCHES / mm

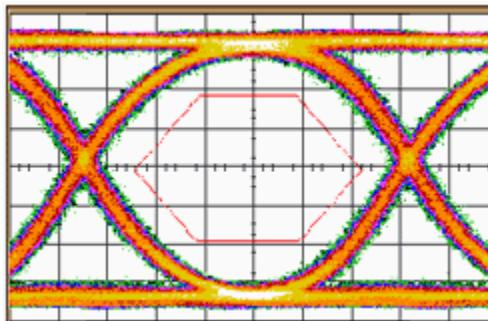


## ORDERING INFORMATION

Order Number	Description
86990-9021	Gigabit Ethernet Transceiver-DC Coupled

### Eye Pattern

Typical 86990-9021 Eye Pattern (RCVR)\*



(Data Rate= 1.25 Gb/s, Receive Power = -17 dBm, Time Scale = 125 ps/div)

\* Electrical output of receiver. Test configuration: optical output of the transmitter attenuated to -17dBm and looped back to the receiver.

Note: Specifications are subject to change without notice.

FOR ADDITIONAL INFORMATION ON THIS OR OTHER PRODUCTS AND THEIR AVAILABILITY, PLEASE CONTACT FIBER OPTIC CENTER, INC.