

# Vi01310MMG1-H

1310nm Multi-Mode Hardened 1G Fiber SFP Transceiver

## Features

- Compliant with IEEE802.3z Gigabit Ethernet Standard
- Industry standard small form pluggable (SFP) package
- Compliant with SFP and SFF-8472 standard for diagnostic monitoring interface
- Distances of 2km
- Duplex LC connector
- Single power supply 3.3V
- TTL signal detect indicator
- Hot pluggable
- Class 1 laser product complies with EN 60825-1
- Hardened wide operating temperature range of -40°C to +75°C



## Applications

- Switch-to-Switch interconnection
- High speed wide bandwidth up and downlink

Vi01310MMG1-H is a 1310 nanometer 1G SFP transmitting on multimode fiber. Compatible with the MultiSource Agreement (MSA), the Vi01310MMG1-H is designed to work with any device conforming to the MSA standards. The Vi01310MMG1-H is also compatible with 62.5/125um fiber for distance of up to 2Km. The Vi01310MMG1-H is the perfect solution for interfacing with existing fiber cable installations for single/multiple camera transmission or short haul backbones.

# Technical Specifications\*

## Electrical

Supply Voltage	3.1V to 3.5V
Current	250mA
Signal Detect	TTL
Compatible with	IEEE 802.3z, SONET OC-24-LR-1
Fiber type	SingleMode
Transmission speed	1.25Gbps
Wavelength	1310nm
Distance	2Km

## Ordering Information

Part No.	Description
Vi01310MMG1-H	1310 nm Multi-mode SFP

## Regulatory

Safety	CE
Environmental	RoHS, WEEE

## Environmental

Temperature	Operating: -40°C to +75°C Storage: -40°C to +85°C
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## Mechanical

Dimensions	0.41 x 2.2 x 0.53 in (10.5 x 57 x 13.7 mm)
Weight	0.035 lbs (15g)
Material	Metal Alloy

\* Specifications subject to change without notice.

## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	4.5	V
Storage Temperature	Ts	-40	+85	°C
Operating Humidity	-	5	85	%

## Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Standard Tc	0		+70	°C
Power Supply Voltage	Vcc	3.13	3.3	3.47	V
Power Supply Current	Icc			300	mA
Data Rate			1.25		Gbps

## Diagnostics Specification

Parameter	Range	Unit	Accuracy	Calibration
Temperature	-40 to +85	°C	±3°C	Internal / External
Voltage	3.0 to 3.6	V	±3%	Internal / External
Bias Current	0 to 100	mA	±10%	Internal / External
TX Power	-18 to -14	dBm	±3dB	Internal / External
RX Power	-30 to 0	dBm	±3dB	Internal / External



TEL (+1) 858-484-5209 • FAX (+1) 858-484-1205

7810 Trade Street, Suite 100, San Diego, CA 92121, USA • support@vigatron.com • www.vigatron.com

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# Notes

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## Transmitter Section

The transmitter section consists of a 1310nm VCSEL in an eye safe optical subassembly (OSA) which mates to the fiber cable.

The laser OSA is driven by a LD driver IC which converts differential input LVPECL logic signals into an analog laser driving current.

## TX\_DISABLE

The TX\_DISABLE signal is high (TTL logic "1") to turn off the laser output. The laser will turn on when TX\_DISABLE is low (TTL logic "0").

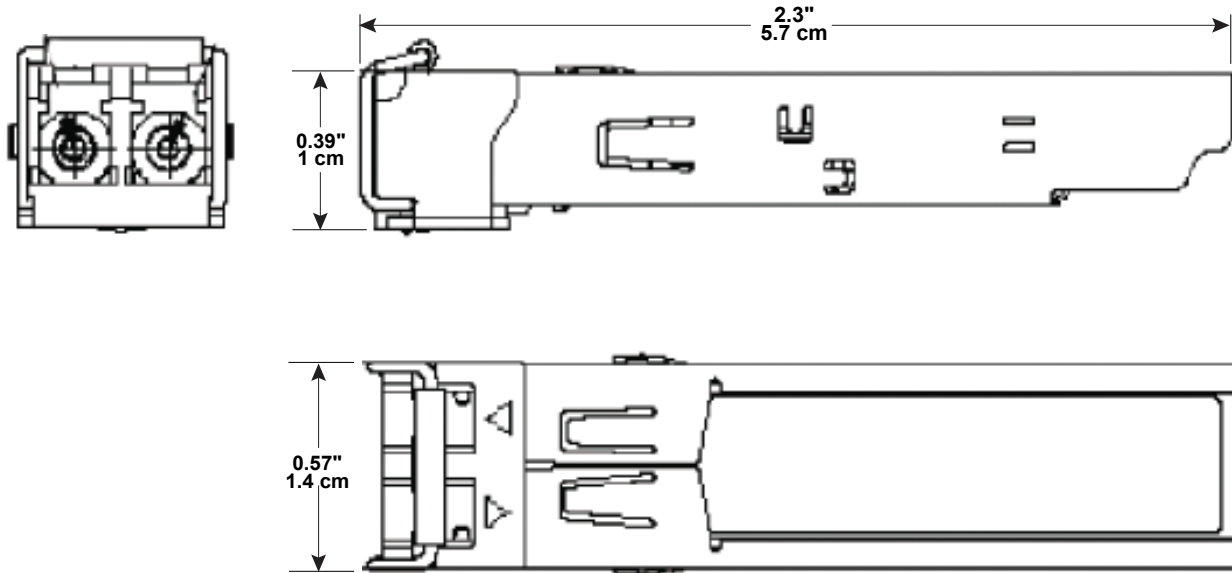
## Receiver Section

The receiver utilizes a MSM detector integrated with a trans-impedance preamplifier in an OSA. This OSA is connected to a circuit providing post-amplification quantization, and optical signal detection.

## Receive Loss (RX\_LOS)

The RX\_LOS is high (logic "1") when there is no incoming light from the companion transceiver. This signal is normally used by the system for the diagnostic purpose. The signal is operated in TTL level.

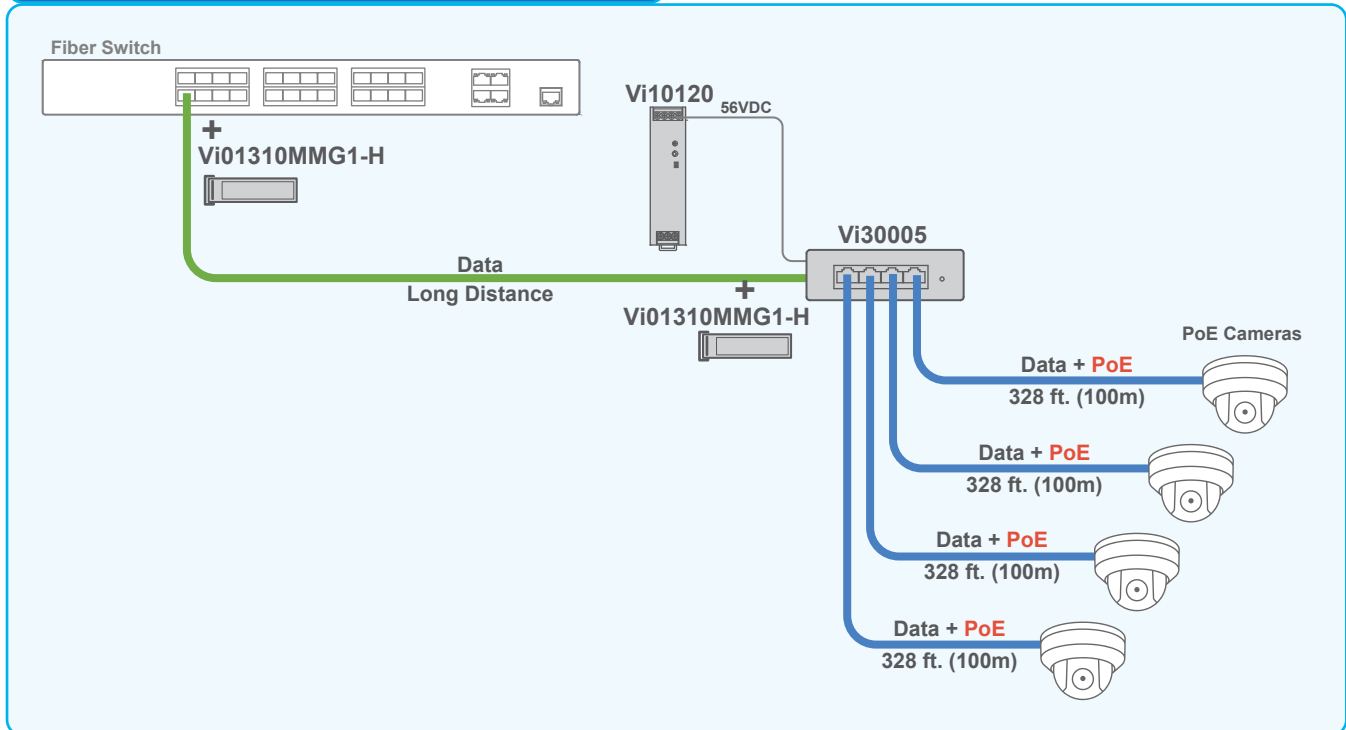
# Mechanical Drawings



# Application Drawings

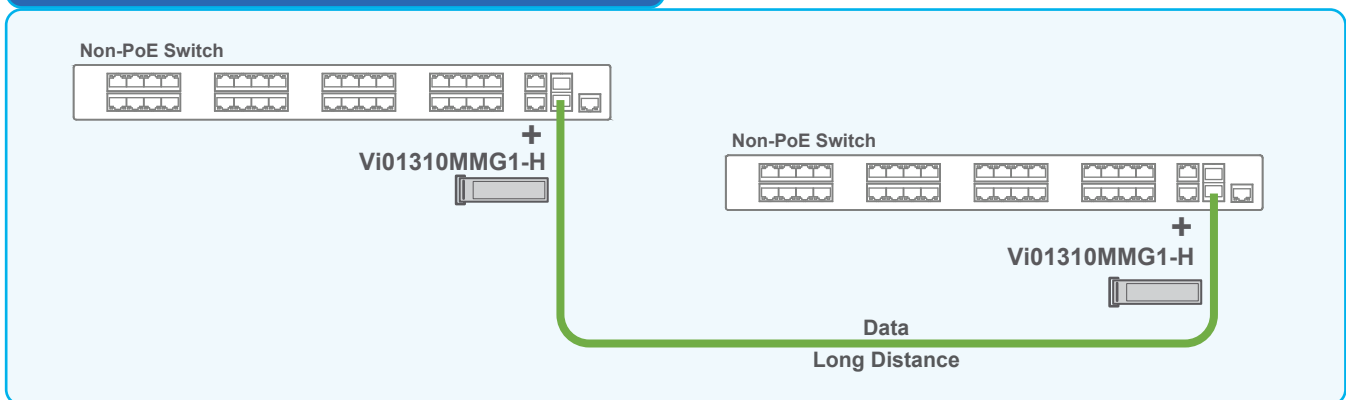
— Cat 5/6  
— Fiber Optics

## Data transmission over Fiber Optic cables



The Vi01310MMA-H can provide long distance connection over fiber cables.

## Data transmission over Fiber Optic cables



The Vi01310MMA-H can connect 2 network switches at long distances at 1000Mbps data rate.