

065-79LXMG Small Form-factor Pluggable (SFP) Gigabit Interface Module



The Signamax 065-79LXMG is a Small Form-factor Pluggable (SFP) singlemode fiber module that supports Gigabit Ethernet over singlemode fiber cable at distances up to 10 kilometers. It adheres to the IEEE 802.3z standard for Gigabit Ethernet over singlemode fiber at 1310 nm, and is a cost-effective method of providing changeable Gigabit Ethernet singlemode interfaces to switches and media converters equipped with a standard SFP slot.

Applications

- Router / Server interface
- Distributed multi-processing
- Switch to switch interface
- High speed I/O for file server

Key Features

- Compliant with SFP MultiSource Agreement. Compliant with IEEE802.3Z
- SCA-2 Host connector
- Duplex LC connector
- 1310 nm FP Laser
- 3.3V power supply
- Hot-Pluggable capability
- Extended EMI & ESD protection
- Class 1 laser product complies with EN 60825-1

Ordering Information

| Part Number | Description |
|-------------|--------------------------------------|
| 065-79LXMG | 1000BaseLX SFP Module – SM/LC, 10 km |

Summary Specification

| PART NUMBER | Model / Spectrum | Light Source | Link Power Budget | Typical Max. Distance** | Supply Voltage | Operating Temp. |
|-------------|------------------|--------------|-------------------|-------------------------|----------------|-----------------|
| 065-79LXMG | LX 1310 nm | FP Laser | 11 dBm | 10 km | 3.3V | 0 ~ 70 °C |

** Maximum distances attainable on singlemode fiber circuits are dependent upon a circuit's conditions; i.e., the number of splices and patch panels and the number of bends in the circuit path. For comparison with competing products, please use the Link Power Budget for meaningful comparisons.

SPECIALTIONS



DETAILED SPECIFICATIONS

• **APPLICABLE STANDARDS**

IEEE 802.3z (1000BaseLX Gigabit Ethernet)

• **ABSOLUTE MAXIMUM RATINGS**

Storage Temperature: TS -40 -- 85 °C

Supply Voltage: V_{CC} -0.5 -- 6.0 V

Input Voltage: V_{IN} -0.5 -- V_{CC} V

Operating Humidity: 5-95 %

• **RECOMMENDED OPERATING CONDITIONS**

| PARAMETER | SYMBOL | MIN | MAX | UNITS | NOTE |
|-------------------------------|-----------------------------------|-----|------|-------|------|
| Ambient Operating Temperature | T _{AMB} | 0 | 70 | °C | |
| Supply Voltage | V _{CC} | 3.1 | 5.25 | V | |
| Supply Current (3.3V) | I _{TX} + I _{RX} | | 85 | mA | |

• **TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS**

V_{CC} = 3.1 V to 3.5 V, T_A = 0 °C to 70 °C

| PARAMETER | SYMBOL | MIN | TYP. | MAX | UNITS | NOTE |
|-------------------------------------|---------------------------|------|------|-----------------|-------|---------|
| Output Optical Power 9/125 μm fiber | P _{out} | -9 | | -3 | dBm | Average |
| Extinction Ratio | ER | 9 | | | dB | |
| Center Wavelength | λ _C | 1280 | 1310 | 1355 | nm | |
| Spectral Width (20dB) | Δλ | | | 4 | nm | |
| Rise/Fall Time, (20–80%) | T _{r, f} | | | 260 | ps | |
| Relative Intensity Noise | RIN | | | -120 | dB/Hz | |
| Total Jitter | TJ | | | 227 | ps | |
| Output Eye | Compliant with IEEE802.3z | | | | | |
| Differential Data Input Swing | V _{IN} | 200 | | 1660 | mV | |
| Transmit Fault Output-Low | TX_FAULT | 0.0 | | 0.5 | V | |
| Transmit Fault Output-High | TX_FAULT | 2.0 | | V _{CC} | V | |

• **RECEIVER ELECTRO-OPTICAL CHARACTERISTICS**

V_{CC} = 3.1 V to 3.5 V, T_A = 0 °C to 70 °C

| PARAMETER | SYMBOL | MIN | TYP. | MAX | UNITS | NOTE |
|--|------------------|------|------|-----------------|-------|-------------------------|
| Optical Input Power-maximum | P _{IN} | -3 | | | dBm | BER < 10 ⁻¹² |
| Optical Input Power-minimum (Sensitivity) | P _{IN} | | -24 | -20 | dBm | BER < 10 ⁻¹² |
| Operating Center Wavelength | λ _C | 1260 | | 1610 | nm | |
| Receiver Electrical 3dB Upper Cutoff Frequency | | | | 1500 | MHz | |
| Loss of signal –Asserted | P _A | -35 | | | dBm | |
| Loss of signal –Deasserted | P _D | | | -20 | dBm | |
| Differential Data Output Swing | V _{out} | 370 | | 2000 | MV | |
| Receiver Loss of Signal Output Voltage-Low | RX_LOS | 0 | | 0.5 | V | |
| Receiver Loss of Signal Output Voltage-High | RX_LOS | 2.0 | | V _{CC} | V | |

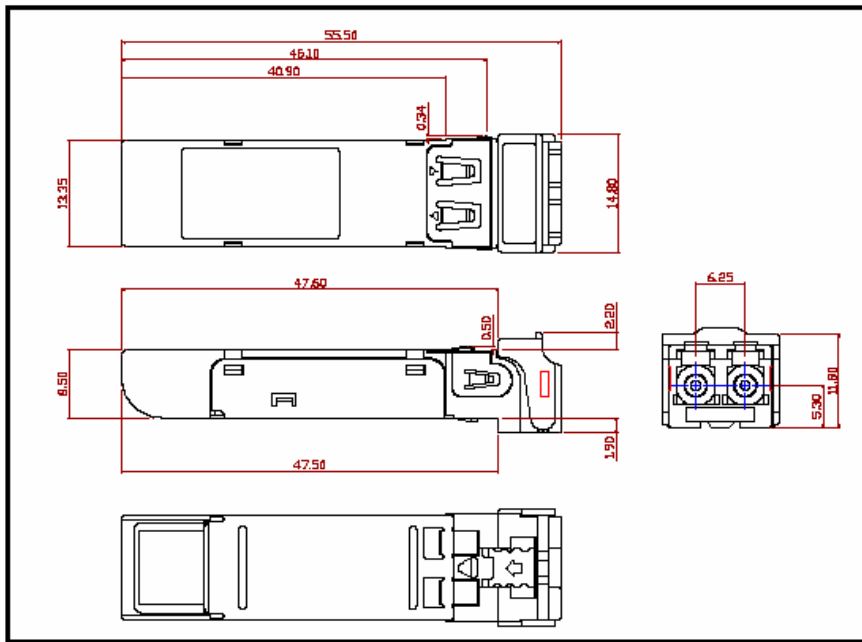
DETAILED SPECIFICATIONS (continued)

• **TIMING REQUIREMENTS**

V_{cc} = 3.1 V to 3.5V, T_A = 0 °C to 70 °C

| PARAMETER | SYMBOL | MIN | TYP. | MAX | UNITS | NOTE |
|---|-----------------------|-----|------|-----|-------|------|
| TX_DISABLE Assert Time | t _{off} | | | 10 | µs | |
| TX_DISABLE Negate Time | t _{on} | | | 1 | ms | |
| Time to initialize, include reset of TX_FAULT | t _{init} | | | 300 | ms | |
| TX_FAULT from fault to assertion | t _{fault} | | | 100 | µs | |
| TX_DISABLE time to start reset | t _{reset} | 10 | | | µs | |
| Receiver Loss of Signal Assert Time (off to on) | t _{A,RX_LOS} | | | 100 | µs | |
| Receiver Loss of Signal Assert Time (on to off) | t _{D,RX_LOS} | | | 100 | µs | |

• **DIMENSIONS (mm)**



• **REGULATORY COMPLIANCE**

| Feature | Test Method | Performance |
|--|---|--|
| Electrostatic Discharge (ESD) to optical connector | Variation of IEC 61000-4-2 | Typically withstand at least 15kV without damage when port is contacted by Human Body Model probe. |
| Immunity | Variation of IEC 61000-4-3 | Typically show no measurable effect from a 10 V/m field swept from 27 MHz to 1 GHz applied to the transceiver without a chassis enclosure. |
| Electromagnetic Interference (EMI) | FCC Class B CENELEC EN55022 Class B (CISPR 22A) | Margins are dependent on customer board and chassis design. |
| Laser Eye Safety | FDA21 CFR 1040.10 and 1040.11 | Class 1 Laser Safety product. |



Sold by LANshack.com – 888-568-1230 – sales@lanshack.com