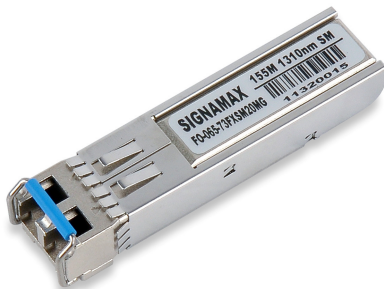


065-73FXSM20MG Small Form-factor Pluggable (SFP) Fast Ethernet / SONET OC-3 / SDH STM-1 Singlemode Fiber Interface Module



The Signamax 065-73FXSM20MG is a Small Form-factor Pluggable (SFP) multimode fiber module that supports Fast Ethernet, SONET OC-3, or SDH STM-1 over singlemode fiber cable at distances up to 20 kilometers. It adheres to the IEEE 802.3u standard for Fast Ethernet over singlemode fiber at 1310 nm, and is a cost-effective method of providing changeable Fast Ethernet / OC-3 / STM-1 singlemode interfaces to switches and media converters designed for these applications that are equipped with a standard 100Base SFP slot.

Applications

- Metro Access Rings
- Point-to-Point networking
- SONET OC-3 / SDH STM-1 over singlemode fiber
- 100BaseFX Fast Ethernet over singlemode fiber

Key Features

- Compliant with SFP MultiSource Agreement. Compliant with IEEE802.3u.
- RoHS Compliant.
- 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 and EN 60950.
- Suitable for Fast Ethernet (100BaseFX), SONET OC-3, and SDH STM-1 applications.

Ordering Information

Part Number	Description
065-73FXSM20MG	100BaseFX / OC-3 / STM-1 SFP Module – SM/LC, 20 km

Summary Specification

PART NUMBER	Model / Spectrum	Light Source	Link Power Budget	Typical Max. Distance**	Supply Voltage	Operating Temp.
065-73FXSM20MG	LX 1310 nm	FP Laser	19 dBm	20 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.

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065-73FXSM20MG 07222011

DETAILED SPECIFICATIONS

• APPLICABLE STANDARDS

IEEE 802.3u (100BaseFX Fast Ethernet)
SONET OC-3
Synchronous Digital Hierarchy (SDM) STM-1

• 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: 0-85 %

• RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Ambient Operating Temperature	T _{AMB}	0	70	°C	
Supply Voltage	V _{CC}	3.1	3.5	V	
Supply Current (3.3V)	I _{TX} + I _{RX}		85	mA	

• TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Transmitter Differential Input Voltage	TD +/-	400		2000	mV p-p	BER < 10 ⁻¹²
Output Optical Power 9/125 μm fiber	P _{out}	-15		-8	dBm	Average
Extinction Ratio	ER	8.2			dB	BER < 10 ⁻¹²
Center Wavelength	λ _C	1280	1310	1355	nm	BER < 10 ⁻¹²
Spectral Width (20dB)	Δλ			4	nm	BER < 10 ⁻¹²
Rise/Fall Time, (20–80%)	T _{r, f}			3	ns	BER < 10 ⁻¹²
Output Eye	Compliant with IEEE802.3u					
Transmit Fault Output-Low	TX_FAULT	V _{ee}		V _{ee} + 0.5	V	BER < 10 ⁻¹²
Transmit Fault Output-High	TX_FAULT	2.0		V _{CC}	V	BER < 10 ⁻¹²
Transmit Disable-Low	TX_FAULT	V _{ee}		V _{ee} + 0.8	V	BER < 10 ⁻¹²
Transmit Disable-High	TX_FAULT	2.0		V _{CC}	V	BER < 10 ⁻¹²

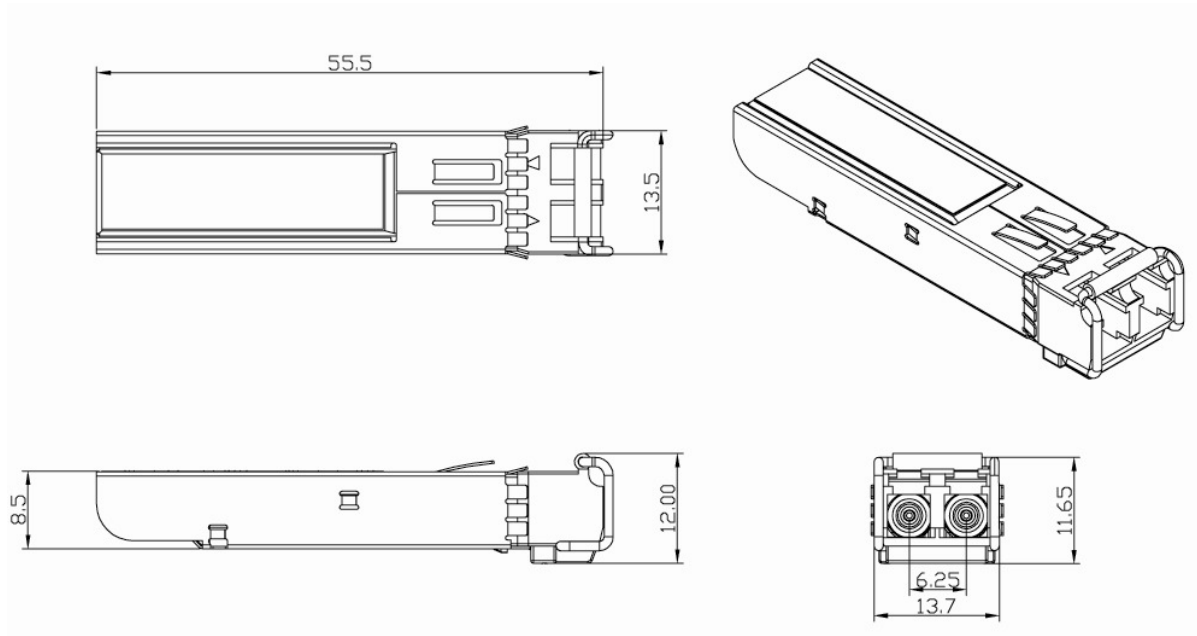
• RECEIVER ELECTRO-OPTICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Receiver Differential Output Voltage	RD +/-	600	800		mV p-p	
Optical Input Power-maximum	P _{IN}	-3			dBm	A BER < 10 ⁻¹²
Optical Input Power-minimum (Sensitivity)	P _{IN}			-34	dBm	A BER < 10 ⁻¹²
Operating Center Wavelength	λ _C	1270		1620	nm	
Loss of signal –Asserted	P _A	-45			dBm	A
Loss of signal –Deasserted	P _D			-34.5	dBm	A
Receiver Loss of Signal Hysteresis		0.5	2		dB	A
Note A: measured in the center of the eye opening with 2²³-1 PRBS, NRZ						

DETAILED SPECIFICATIONS (continued)

• 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.

• WARRANTY

Lifetime