Cisco® Compatible 1000Base-LX SMF SFP Transceiver Module - Single Mode Duplex LC 1310nm to 20Km

PART NUMBER: GLC-LH-SM20-ALG
BAR CODE: 9350784013538

1 Overview

This SFP (mini-GBIC) transceiver module is designed for use with Cisco network equipment and is equivalent to Cisco part number GLC-LH-SM. This transceiver is built to meet or exceed the specifications of the OEM and to comply with Multi-Source Agreement (MSA) standards. This product is 100% functionally tested, and compatibility is guaranteed. The transceiver is a hot-swappable input/output device which allows a Gigabit Ethernet port to link with a fiber optic network. OEM specific configuration data is loaded on to the EEPROM of the transceiver at the factory, allowing this transceiver to initialize and perform identically to an OEM transceiver. This transceiver may be mixed and deployed with other OEM or third party transceivers and will deliver seamless network performance.

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2 Features

* SFP Multi-Source Agreement compliance
* Compliant with Fiber Channel 100-SM-LC-L standard
* Compliant with IEEE802.3z Gigabit Ethernet standard
* Industry standard small form pluggable (SFP) package
* Duplex LC connector
* Differential LVPECL inputs and outputs
* Single power supply 3.3V
* TTL signal detect indicator
* Hot Pluggable
* Class 1 laser product complies with EN 60825*1
* RoHS compliant
* Warranty: 1 Year

3 Application

* Distributed multi-processing
* Switch to switch interface
* High speed I/O for file server
* Bus extension application
* Channel extender, data storage

4 Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	T_s	-40	85	°C	
Supply Voltage	Vcc	-0.5	4.0	V	
Input Voltage	V_{IN}	-0.5	Vcc	V	
Output Current	I_o	—	50	mA	
Operating Current	I_{op}	—	400	mA	

5 Recommended Operating Conditions

Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	T_c	0	70	°C	OP6C-S10-13-C
		-40	85	°C	OP6C-S10-13-I
Supply Voltage	Vcc	3.1	3.5	V	
Supply Current	$I_{TX} + I_{RX}$	—	250	mA	

6 Transmitter Electro-optical Characteristics

Vcc = 3.1 V to 3.5 V, T$_c$ = 0°C to 70°C (-40°C to 85°C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Note
Output Optical Power 9/125 μm fiber	P$_{out}$	-9.5	---	-3	dBm	Average
Extinction Ratio	ER	9	---	---	dB	
Center Wavelength	λ$_c$	1270	1310	1355	nm	
Spectral Width (RMS)	Δλ	---	---	2.5	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					
Max. P$_{out}$ TX-DISABLE Asserted	P$_{off}$	---	---	-45	dBm	
Differential Input Voltage	V$_{diff}$	0.4	---	2.0	V	

7 Receiver Electro-optical Characteristics

Vcc = 3.1 V to 3.5 V, T$_c$ = 0°C to 70°C (-40°C to 85°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$_{IN}$	---	---	-20	dBm	BER < 10^{-12}
Operating Center Wavelength	λC	1260	---	1610	nm	
Optical Return Loss	ORL	12	---	---	dB	
Signal Detect-Asserted	P$_A$	---	---	-20	dBm	
Signal Detect-Deasserted	P$_D$	-35	---	---	dBm	
Differential Output Voltage	V$_{diff}$	0.5	---	1.2	V	
Data Output Rise, Fall Time (20-80%)	T$_{r, f}$	---	---	0.35	ns	
Receiver Loss of Signal Output Voltage-Low	RX_LOS$_L$	0	---	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOS$_H$	2.4	---	VCC	V	