MGBIC-LC03-OPC

Enterasys MGBIC-LC03 Compatible TAA Compliant 1000Base-MX SFP Transceiver (MMF, 1310nm, 2km, LC)

Features

- INF-8074 and SFF-8472 Compliance
- Duplex LC Connector
- Fabry Perot transmitter and PIN receiver
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 1000Base Ethernet
- Up to 2km over MMF
- Access and Enterprise

Product Description

This Enterasys MGBIC-LC03 compatible SFP transceiver provides 1000Base-MX throughput up to 2km over multi-mode fiber (MMF) using a wavelength of 1310nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Enterasys transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. It is built to meet or exceed the specifications of Enterasys, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5	4.0	V
Storage Temperature	Tstg	-40	85	°C
Operating Case Temperature	Тс	0	70	°C
Operating Humidity	RH	5	85	%
Receiver Power	R _{MAX}		0	dBm
Maximum Bitrate	B _{max}		1.25	Gbps

Electrical Characteristics (Tc=25°C, Vcc=3.3 Volts)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.30	3.43	V	
Power Supply Current	Icc			303	mA	
Power Consumption				1	W	
Transmitter						
Differential Data Input Swing	VIN,pp	120		850	mV	
Input Differential Impedance	ZIN	80	100	120	Ω	
Receiver						
Differential Data Output Swing	VOUT,pp	300		850	mV	
Output Differential Impedance	ZIN	80	100	120	Ω	

Optical Characteristics

Parameter	Symbol	Min.	Тур.	Max.	Unit	Notes
Transmitter						
Optical Power (Average)	P _{AVE}	-9.5		-3	dBm	1
Optical Extinction Ratio	ER	9			dB	
Optical Wavelength	Τλ	1270	1310	1355	nm	
Insertion Loss	IL		0.6			
Receiver						
Receiver Sensitivity (Average)	R _{AVE}			-24	dBm	3
Receiver Overload	P _{max}	0			dBm	4
Optical Return Loss	ORL	12			dB	
Receiver Wavelength	Rλ	1260		1565	nm	

Notes:

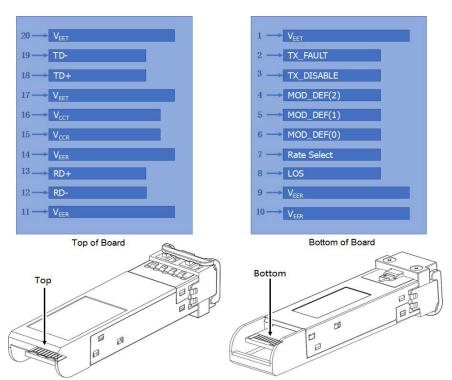
- 1. Coupled into a single-mode fiber.
- 2. Per IEEE 802.3ah specification.
- 3. Average power, back-to-back, @1.25Gbps, BER $1E^{-12}$, and PRBS 2^{31} -1.
- 4. Exceeding the Receiver Overload can physically damage the module. Please use appropriate attenuation.

Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	Tx_Fault	Transmitter Fault. Not Supported.	
3	Tx_Disable	Transmitter Disable. Laser output disabled on "high" or "open."	2
4	MOD_DEF (2)	Module Definition 2. Data Line for Serial ID.	3
5	MOD_DEF (1)	Module Definition 1. Clock Line for Serial ID.	3
6	MOD_DEF (0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No Connection Required.	
8	LOS	Loss of Signal Indication. "Logic 0" indicates normal operation.	4
9	VeeR	Receiver Ground (Common with Transmitter Ground).	1
10	VeeR	Receiver Ground (Common with Transmitter Ground).	1
11	VeeR	Receiver Ground (Common with Transmitter Ground).	1
12	RD-	Receiver Inverted Data Out. AC Coupled.	
13	RD+	Receiver Non-Inverted Data Out. AC Coupled.	
14	VeeR	Receiver Ground (Common with Transmitter Ground).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter Ground (Common with Receiver Ground).	1
18	TD+	Transmitter Non-Inverted Data In. AC Coupled.	
19	TD-	Transmitter Inverted Data In. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

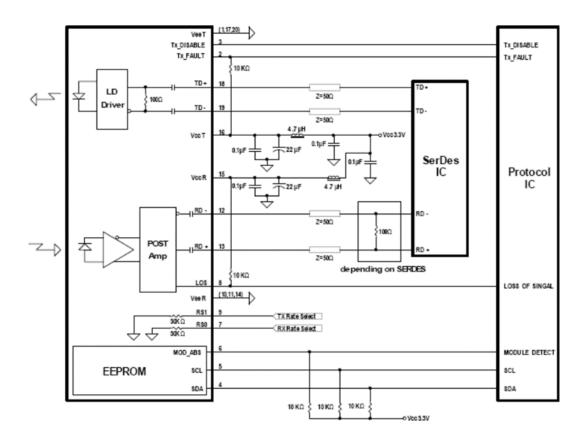
Notes:

- 1. The circuit ground is isolated from the chassis ground.
- 2. Disabled: T_{DIS} >2V or Open, Enabled: T_{DIS} <0.8V.
- 3. Should be pulled up with $4.7k\Omega$ to $10k\Omega$ on the host board to a voltage between 2V and 3.6V.
- 4. LOS is an open collector output.



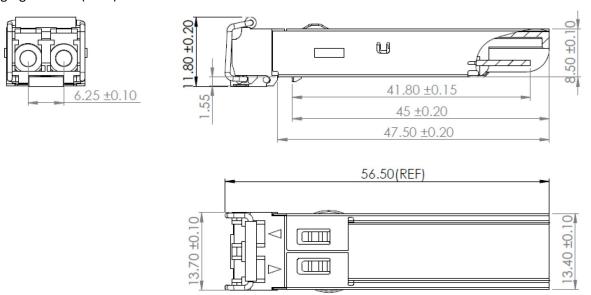
Pin-Out of Connector Block on the Host Board

Recommended Circuit Schematic



Mechanical Specifications

Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).



EEPROM Information

EEPROM memory map-specific data field description is as below:

