iSFP-100-MM-PRO

Alcatel-Lucent Nokia® iSFP-100-MM Compatible TAA Compliant 100Base-FX SFP Transceiver (MMF, 1310nm, 2km, DOM, -40 to 85C, LC)

Features

- INF-8074 and SFF-8472 Compliance
- Duplex LC Connector
- Industrial Temperature -40 to 85 Celsius
- Multi-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications:

- 100Base Ethernet
- Access and Enterprise

Product Description

This Alcatel-Lucent Nokia® iSFP-100-MM compatible SFP transceiver provides 100Base-FX 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 Alcatel-Lucent Nokia® 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. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Proline's transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products.

Rev. 031924

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5		3.6	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	-40		85	°C
Operating Humidity	RH			95	%
Receiver Power	R_{MAX}			-12	dBm
Data Rate			100/155		Mbps
50µm Core Diameter MMF	L		2		km

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		Vcc	3.15	3.30	3.45	V	
Power Supply Current		Icc			300	mA	
Transmitter							
LVPECL Differential Inputs		VIN	400		2000	mVp-p	1
Input Differential Impedance		ZIN	85	100	120	Ω	2
Tx_Disable	**Disable**		2		Vcc	V	
	Enable		0		0.8	V	
Tx_Fault	**Fault**		2		Vcc+0.3	V	
	Normal		0		0.5	V	
Receiver							
LVPECL Differential Outputs		VOUT	400		2000	mVp-p	1
Output Differential Impedance		ZIN	85	100	120	Ω	
Tx_Disable Assert Time		T_off			10	us	
Rx_LOS	**LOS**		2		Vcc+0.3	V	
	Normal		0		0.8	V	
MOD_DEF (0.2)		VOH	2.5			V	3
		VOL	0		0.8	V	3

Notes:

1. AC Coupled.
2. RIN> 100kΩ @ DC.
3. With Serial ID.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Average Output Power	POUT	-19		-14	dBm	1
Optical Extinction Ratio	ER	10			dB	2
Optical Wavelength	Tλ	1260	1310	1360	nm	
Spectral Width (RMS)	Δλ			4	nm	
Total Jitter	TJ			1	ns	2
Tx_Disable Asserted Time	T_off			10	us	
POUT @ Tx_Disable Asserted	POUT			-45	dBm	
Rise/Fall Time (20-80%)	Tr/Tf			2	ns	
Output Optical Eye		IUT-T G.957 Compliant				
Receiver						
Receiver Sensitivity	P_{min}			-31	dBm	3
Receiver Overload	P_{max}	-12			dBm	
Optical Center Wavelength	λC	1260		1600	nm	
Return Loss		14			dB	

Notes:

1. Output power is measured by coupling into a 50/125mm multi-mode fiber.
2. Filtered. Measured with a PRBS $2^{23}-1$ test pattern @155Mbps.
3. Minimum average optical power is measured at BER less than $1E^{-12}$ with $2^{23}-1$ PRBS and ER=9dB.

Pin Descriptions

Pin	Symbol	Name/Description	Note
1	VeeT	Transmitter Ground. Common with Receiver Ground.	1
2	Tx_Fault	Transmitter Fault. LVTTL-O.	2
3	Tx_Disable	Transmitter Disable. Laser output disabled on "high" or "open." LVTT-I.	3
4	SDA	2-Wire Serial Interface Data (Same as MOD-DEF2 in INF-8074i). LVTTL-I/O.	
5	SCL	2-Wire Serial Interface Clock (Same as MOD-DEF2 in INF-8074i). LVTTL-I.	
6	MOD_ABS	Module Absent. Connect to VeeT or VeeR in the module.	4
7	RS0	Rate Select 0. Not Used.	5
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation. LVTTL-O.	2
9	RS1	Rate Select 1. Not Used.	5
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. CML-O.	
13	RD+	Receiver Non-Inverted Data Out. AC Coupled. CML-O.	
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. CML-I.	
19	TD-	Transmitter Inverted Data In. AC Coupled. CML-O.	
20	VeeT	Transmitter Ground. Common with Receiver Ground.	1

Notes:

1. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2. This contact is an open collector/drain output and should be pulled up to the Host_Vcc with a resistor in the range 4.7kΩ-10kΩ. Pull-ups can be connected to one or several power supplies; however, the host board design shall ensure that no module contact has a voltage exceeding the module VccT/R+0.5V.
3. Tx_Disable is an input contact with a 4.7kΩ-10kΩ pull-up resistor to the VccT inside the module.
4. MOD_ABS is connected to the VeeT or VeeR in the SFP+ module. The host may pull the contact up to the Host_Vcc with a resistor in the range from 4.7kΩ-10kΩ. MOD_ABS is asserted "high" when the SFP+ module is physically absent from a host slot.
5. Internally pulled down per SFF-8431.

Pin-Out of Connector Block on the Host Board
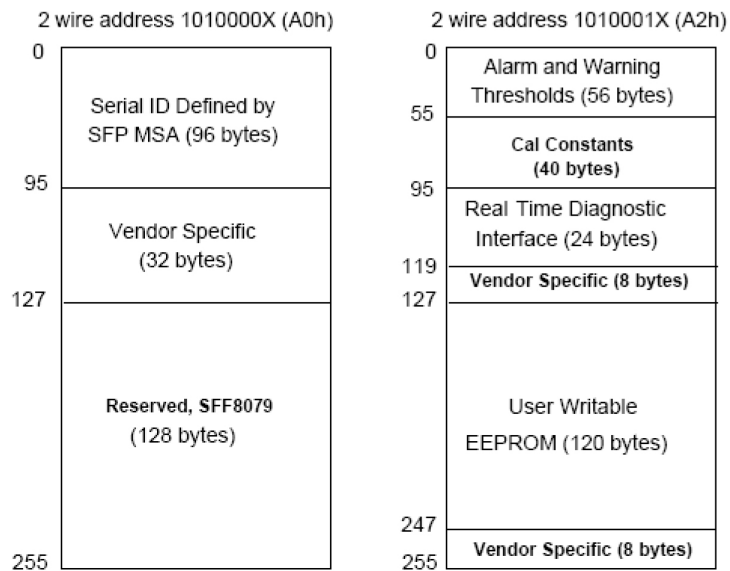
Recommended Circuit Schematic

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:

About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.

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