

SFP-100-LC-SM40-PRO

Alcatel-Lucent Nokia[®] SFP-100-LC-SM40 Compatible TAA Compliant 100Base-LH SFP Transceiver (SMF, 1310nm, 40km, 0 to 70C, LC)

Features

- INF-8074 and SFF-8472 Compliance
- Duplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-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[®] SFP-100-LC-SM40 compatible SFP transceiver provides 100Base-LH throughput up to 40km over single-mode fiber (SMF) 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. It is built to meet or exceed the specifications of Alcatel-Lucent Nokia[®], 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.

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

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883 Method 3015.
- ESD to the Duplex LC Receptacle: compatible with IEC 61000-4-2.
- Immunity compatible with IEC 61000-4-3.
- EMI compatible with FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B.
- Laser Eye Safety compatible with FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2.
- RoHs compliant with 2002/95/EC 4.1&4.2 2005/747/EC.

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Тур. | Max. | Unit |
|----------------------------|--------|------|---------|------|------|
| Maximum Supply Voltage | Vcc | -0.5 | | 4.0 | V |
| Storage Temperature | TS | -40 | | 85 | °C |
| Operating Humidity | RH | 5 | | 85 | % |
| Operating Case Temperature | Тс | 0 | | 70 | °C |
| Data Rate | | | 100/155 | | Mbps |

Electrical Characteristics (TOP=25°C, Vcc=3.3V)

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes |
|-------------------------------|--------|------|------|------|------|-------|
| Power Supply Voltage | Vcc | 3.15 | 3.3 | 3.45 | V | |
| Power Supply Current | lcc | | | 300 | mA | |
| Transmitter | | | | | | |
| Input differential impedance | Zin | 85 | 100 | 120 | Ω | 1 |
| LVPECL Inputs (Differential) | Vin | 400 | | 2000 | mVpp | 2 |
| Receiver | | | | | , | |
| Output Differential Impedance | Zout | 85 | 100 | 120 | Ω | |
| LVPECL Outputs (Differential) | Vout | 400 | | 2000 | mVpp | 2 |

Notes:

- 1. Rin > 100 kohms @ DC
- 2. AC coupled.

Optical Characteristics

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes |
|---------------------------|--------|-----------------------|------|-------|------|-------|
| Transmitter | | | | | | |
| Average Output Power | РО | -5 | | 0 | dBm | 1 |
| Optical Wavelength | λ | 1275 | 1310 | 1350 | nm | |
| Spectral Width (RMS) | Δλ | | | 3 | nm | |
| Optical Rise/Fall Time | tr/tf | | | 2 | ns | 2 |
| Extinction Ratio | ER | 10 | | | dB | 3 |
| Output Optical Eye | | IUT-T G.957 Compliant | | | | |
| Receiver | | | | | | |
| Receiver Sensitivity | Pmin | | | -34.5 | dBm | 4 |
| Receiver Overload | Pmax | -10 | | | dBm | |
| Optical Center Wavelength | λC | 1270 | | 1600 | nm | |
| LOS De-Assert | LOSD | | | -35 | dBm | |
| LOS Assert | LOSA | -45 | | | dBm | |
| LOS Hysteresis | | 1 | | | dB | |

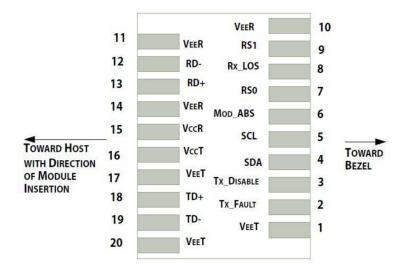
Notes:

- 1. Internally AC coupled.
- 2. 20%-80%
- 3. Filtered, measured with a PRBS 2²³-1 test pattern @155Mbps.
- 4. Minimum average optical power is measured at BER less than 1E-12, with 2²³-1 PRBS and ER=9 dB

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|-------------|--|------|
| 1 | VeeT | Transmitter Ground (Common with Receiver Ground) | 1 |
| 2 | TX Fault | Transmitter Fault. | |
| 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 |

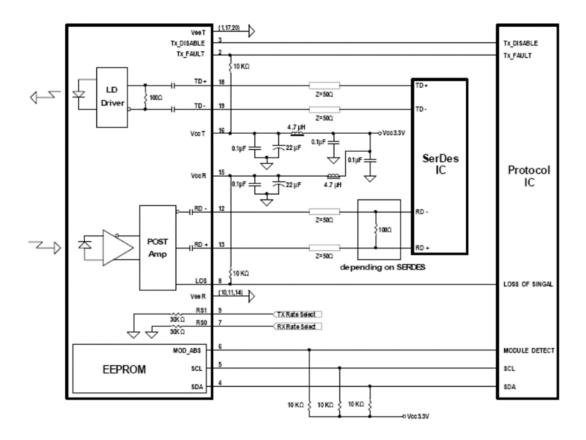
Notes:

- 1. Circuit ground is internally isolated from chassis ground.
- 2. Laser output disabled on TX Disable >2.0V or open, enabled on TX Disable <0.8V.
- Should be pulled up with 4.7k-10kohms on host board to a voltage between 2.0V and 3.6V. MOD_DEF
 (0) pulls line low to indicate module is plugged in.
- 4. LOS is open collector output. Should be pulled up with 4.7k-10kohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.



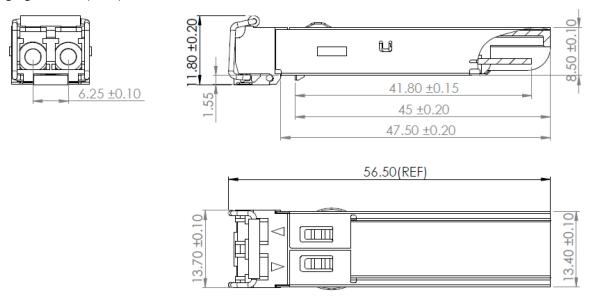
Pin-out of connector Block on Host board

Recommended Circuit Schematic



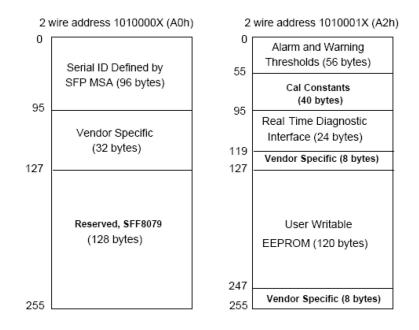
Mechanical Specifications

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.



Tel: 855.933.3223 Email: sales@prolineoptions.com Email: techsupport@prolineoptions.com Web: https://www.prolineoptions.com