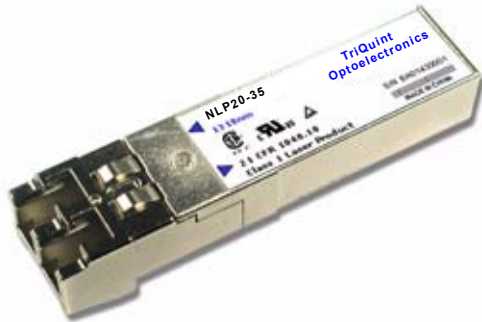


NetLight® NLP20-Series Small Form-Factor Pluggable (SFP) Transceivers for 1G and 2G Fibre Channel Applications



Available in a small form-factor, LC receptacle connector metal package, the NLP20-Series SFP transceiver is a high-performance, cost-effective, optical transceiver for 1G and 2G Fibre Channel applications.

Features

- Multisource agreement compliant SFP package
- LC duplex receptacle
- Metal package for superior EMI performance
- Automatic output power control
- Link lengths from 300 m to 80 km
- 850 nm VCSEL, 1310 nm FP, 1310 nm DFB, or 1550 nm DFB transmitters available
- Transmitter disable input
- Hot-pluggable electrical interface
- LVTTTL loss-of-signal output
- Low power dissipation
- Single 3.3 V power supply
- ac-coupled LVPECL/CML compatible data inputs and outputs
- Serial identification (EEPROM)

Applications

- Mass storage and computer system I/O
- Host bus adapter I/O
- High speed switching systems

Description

The NLP20-series small form-factor pluggable (SFP) transceiver is a line of high-speed, cost-effective optical transceivers intended for 1G (1.0625 Gb/s) and 2G (2.125 Gb/s) Fibre Channel applications in link lengths from less than 300 m to 80 km. These transceivers feature TriQuint Optoelectronics optics and are packaged in a narrow-width metal housing with an LC duplex receptacle. The packaging and pinout conform to the SFP transceiver multisource agreement.

The transmitter features ac-coupled differential data inputs, an LVTTTL logic level disable input, and a transmitter fault indicator output. The receiver features differential ac-coupled data outputs and a LVTTTL logic level loss-of-signal output.

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operations sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Unit
Storage Temperature Range	Tstg	-40	85	°C
Case Temperature Range	Tc	-40	85	°C
Supply Voltage	Vcct, R	0	3.8	V

Recommended Operating Conditions

Table 1. 1G, 500 m and 2G, 300 m Applications (NLP20-01)

Parameter	Symbol	Min	Typ	Max	Unit
Case Temperature Range:	Tc	0	—	70	°C
Supply Voltage	Vcct, R	3.135	—	3.465	V
Data Rate	—	—	1.0625/2.125	—	Gb/s

Table 2. 2G, 2 km Applications (NLP20-02)

Parameter	Symbol	Min	Typ	Max	Unit
Case Temperature Range:	Tc	-40	—	85	°C
Supply Voltage	Vcct, R	3.135	—	3.465	V
Data Rate	—	—	2.125	—	Gb/s

Table 3. 2G, 35 km Applications (NLP20-35)

Parameter	Symbol	Min	Typ	Max	Unit
Case Temperature Range:	Tc	-40	—	85	°C
Supply Voltage	Vcct, R	3.135	—	3.465	V
Data Rate	—	—	2.125	—	Gb/s

Table 4. 2G, 80 km Applications (NLP20-80)

Parameter	Symbol	Min	Typ	Max	Unit
Case Temperature Range:	Tc	-5	—	70	°C
Supply Voltage	Vcct, R	3.135	—	3.465	V
Data Rate	—	—	2.125	—	Gb/s

Power Supply Information

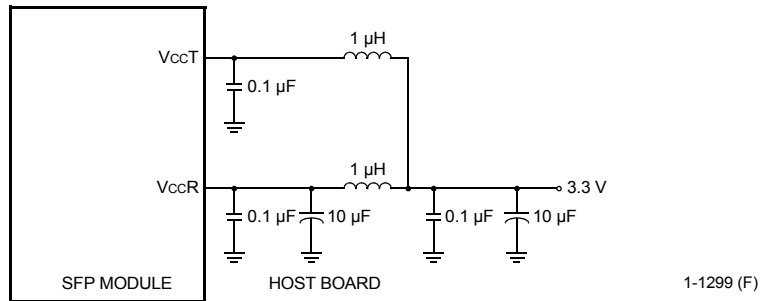


Figure 1. Power Supply Filtering of SFP Transceiver

Pin Information

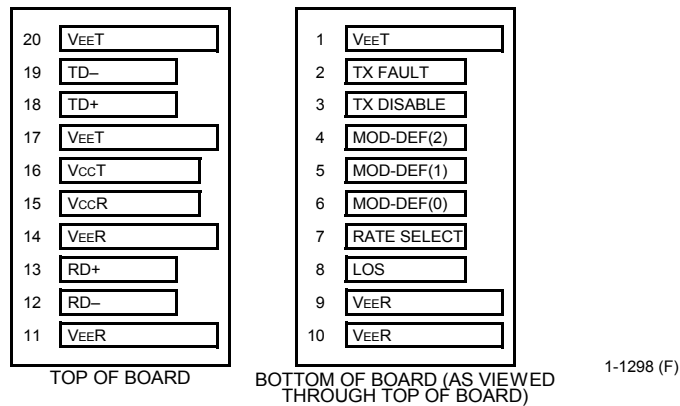


Figure 2. NLP20 SFP Transceiver, 20-Pin Configuration, Top View

Electrical Schematic

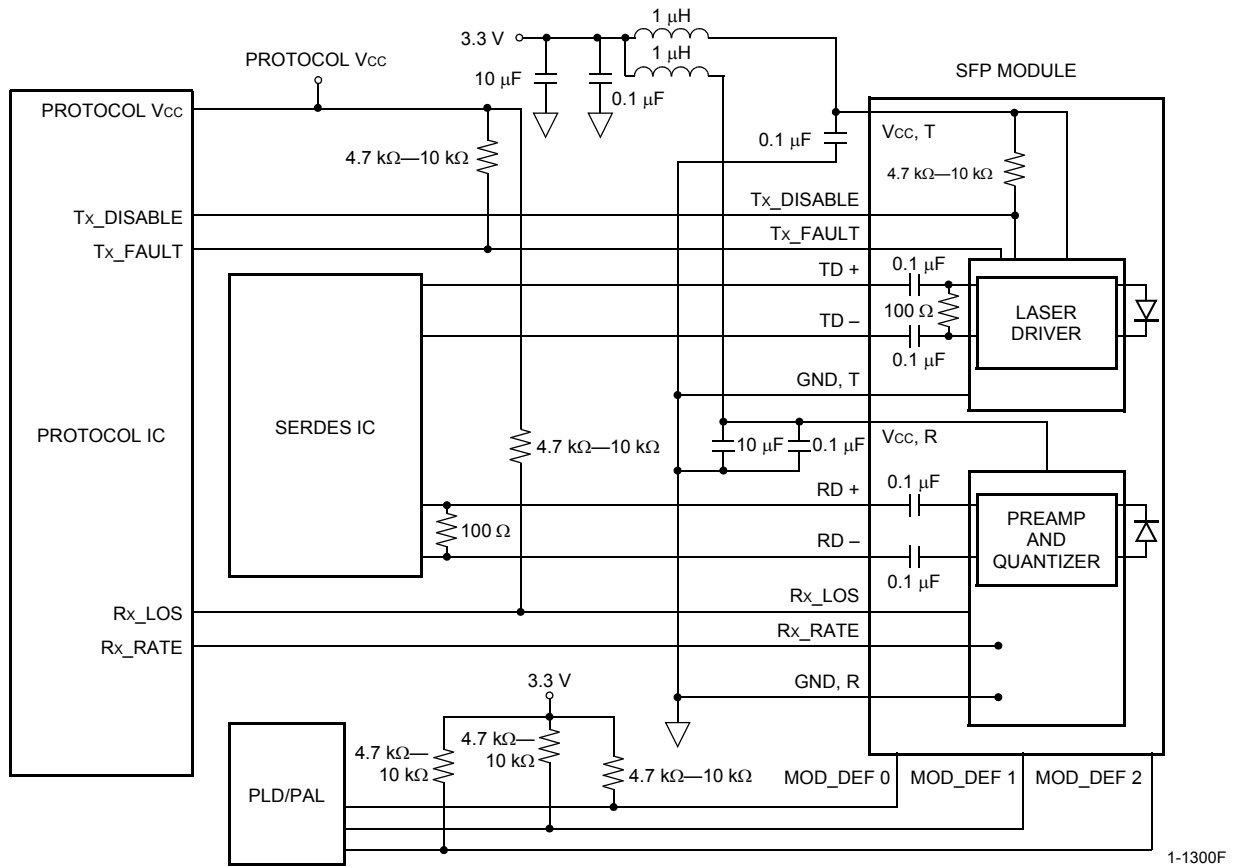
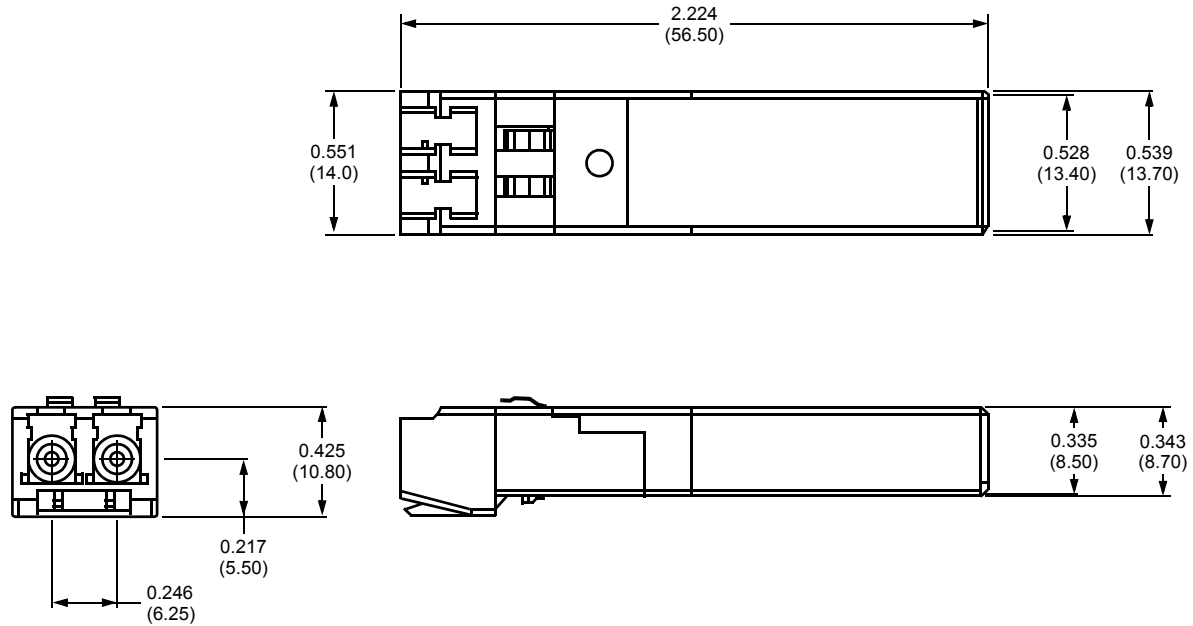


Figure 3. Example SFP Host Board Schematic

Outline Drawings

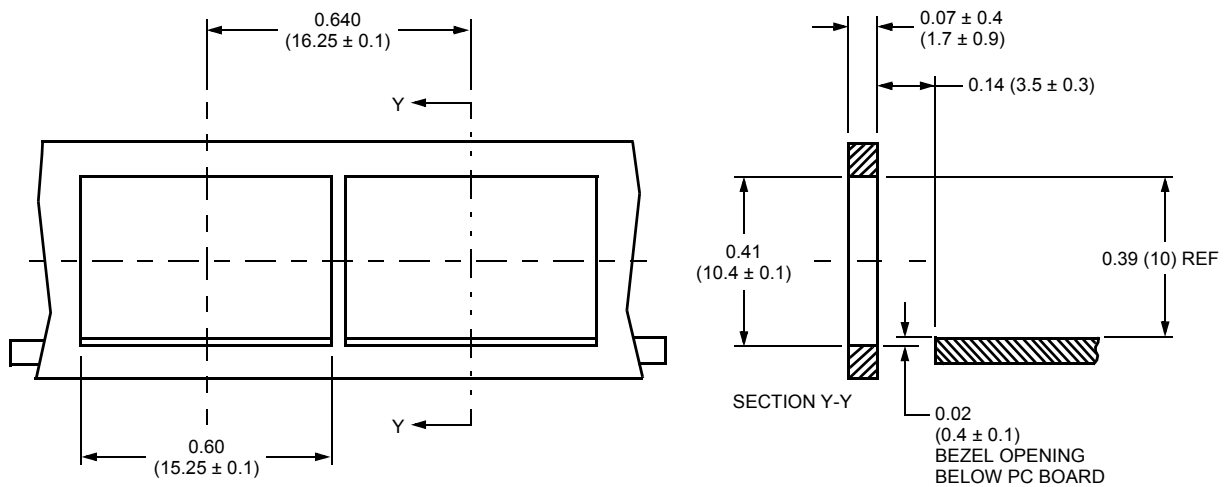
Dimensions are in inches and (millimeters).

Package Outline



1-1312 (F)

Recommended Panel Opening

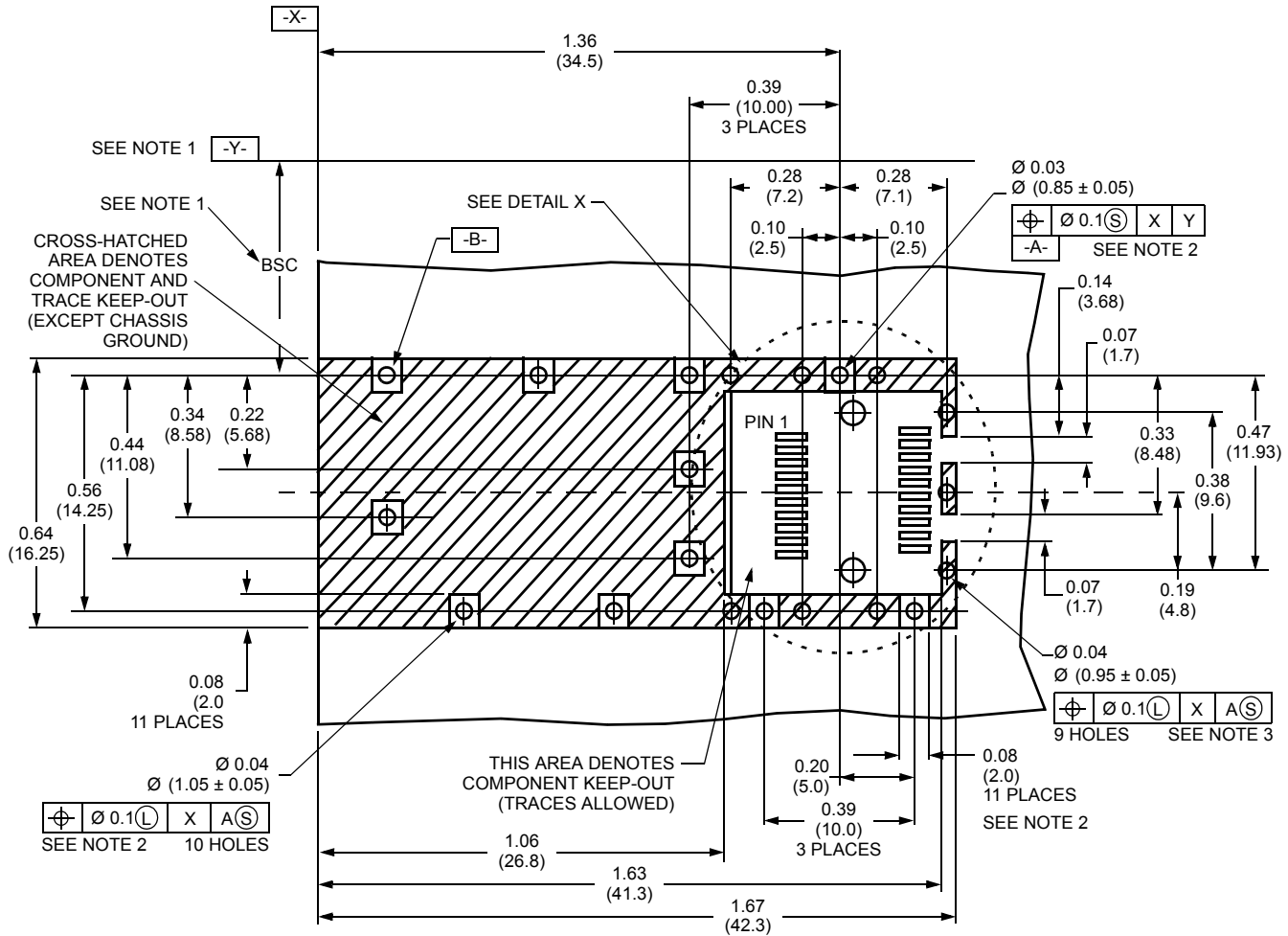


1-1309 (F)

Outline Drawings (continued)

Dimensions are in inches and (millimeters).

Printed-Wiring Board Layout



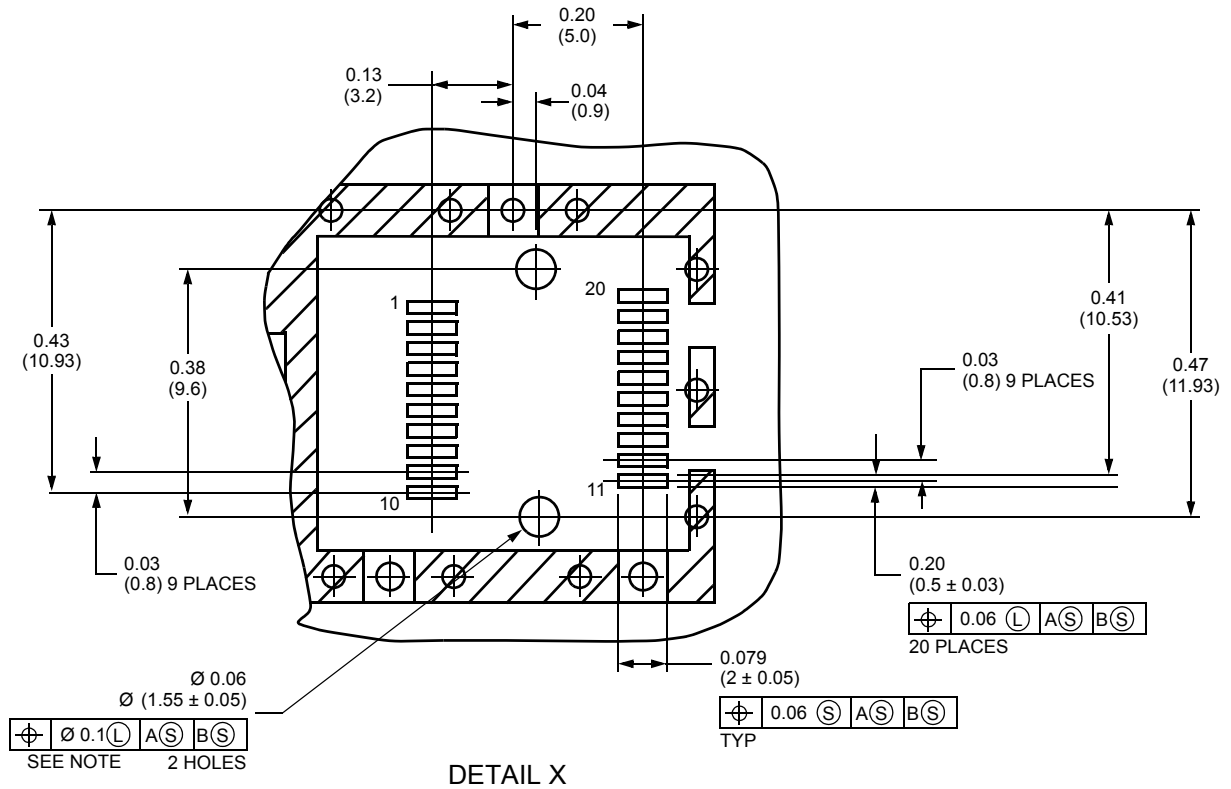
1-1311F

1. Datum and basic dimensions established by customer.
2. Pads and vias are chassis ground.
3. Through holes, plating optional.

Outline Drawings (continued)

Dimensions are in inches and (millimeters).

Printed-Wiring Board Layout (continued)



Note: Through holes, plating optional.

Device Information

Table 5. Device Information

Rate	Link Length	Transmitter Source	INCITS T11.2 Specification	Device Code
1G	500 m	850 nm VCSEL	100-M5-SN-I	NLP20-01
2G	300 m	850 nm VCSEL	200-M5-SN-I	NLP20-01
2G	2 km	1310 nm FP	200-SM-LL-I	NLP20-02
2G	35 km	1310 nm DFB	FC-PI-3 (proposed)	NLP20-35
2G	80 km	1550 nm DFB	FC-PI-3 (proposed)	NLP20-80

NetLight is a registered trademark of TriQuint Optoelectronics, Inc.

Additional Information

For the latest specifications, additional product information, worldwide sales and distribution locations, and information about TriQuint:

Web: www.triquint.com

Tel: (503) 615-9000

E-mail: info_opto@tqs.com

Fax: (503) 615-8902

For technical questions and additional information on specific applications:

E-mail: info_opto@tqs.com

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