

small form factor pluggables

TN-SFP-xxx

SFP Modules: Small Form Factor Pluggables MSA Compatible Duplex LC & RJ-45



Applications

- ▶ Gigabit Ethernet Switches and Routers
- ▶ Fibre Channel Switch Infrastructure
- ▶ xDSL Applications
- ▶ Metro Edge Switching

Features

- ▶ Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- ▶ Digital Diagnostic Function
- ▶ Class 1 Laser International Safety Standard IEC-60825 Compliant
- ▶ Compatible with SFP Multi-Sourcing Agreement (MSA)

Additional Features

TN-SFP-SX or -LXx SFP modules

- ▶ Compliant with IEEE 802.3z
- Gigabit Ethernet
- ▶ Compliant with Fibre Channel 1X SM-LC-L FC-PI

Can be used on Optical Line Converter xFMFF4040-100

TN-SFP-OC3x SFP modules

- ▶ Compliant with 100BASE-FX
- ▶ Compliant with Intermediate-Reach SONET OC-3/SDH STM-1 (S-1.1)

TN-SFP-OC12x SFP modules

- ▶ Compliant with Intermediate-Reach SONET OC-12/SDH STM-4 (S-4.1)

TN-SFP-TX

- ▶ Compliant with IEEE802.3u Fast Ethernet

TN-SFP-T-MG

- ▶ Compliant with IEEE 802.3:2002
- ▶ 10/100/1000BASE-T operation in host system with SGMII interface
- ▶ Compatible with 1000BASE-T Auto-Negotiation
- ▶ AutoCross™ [

Specifications

Standards	IEEE 802.3 2003; ANSI X3.297-1997
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power	3.3V
Power Consumption	0.66 Watts
Environment	TN-SFP-SX TN-SFP-SXD TN-SFP-LX1 TN-SFP-ESX5 TN-SFP-ESX6 TN-SFP-OC3S3 TN-SFP-ELX1 TN-SFP-FC2XM TN-SFP-FC2XS2 -10°C – 85°C TN-SFP-LX3 TN-SFP-LX5 TN-SFP-LX8 TN-SFP-LX12 TN-SFP-LX16 TN-SFP-OCx TN-SFP-FC2XS40 TN-SFP-FC2XS15 TN-SFP-TX TN-SFP-T-MG 0°C – 70°C
Compliance	IEC-60825; FDA 21; CFR 1040.10 and 1040.11
Warranty	Lifetime

*Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

*Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

TN-SFP-OC3M

100BASE-FX/OC-3
1310nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

TN-SFP-OC3S

100BASE-FX/OC-3
1310nm single mode (LC)
[20 km/12.4 mi.] Link Budget: 17.0 dB

TN-SFP-OC3S3

100BASE-FX/OC-3 1310nm SM (LC)
[30 km/18.6 mi.] Link Budget: 20.0 dB

TN-SFP-OC3S8

100BASE-FX/OC-3 1550nm SM (LC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

TN-SFP-OC3S10

100BASE-FX/OC-3 1550nm SM (LC)
[100 km/62.1 mi.] Link Budget: 31.0 dB

TN-SFP-OC3S12

100BASE-FX/OC-3 1550nm SM (LC)
[120 km/74.6 mi.] Link Budget: 34.0 dB

TN-SFP-OC3S20

100BASE-FX/OC-3 1550nm SM (LC)
[200km/124.3 mi.] Link Budget: 46.0 dB

TN-SFP-OC12M

OC-12/STM-4 SFP 1300nm MM (LC)
[1 km/0.6 mi.] Link Budget: 7.0 dB

TN-SFP-OC12S

OC-12/STM-4 SFP 1310nm SM (LC)
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-SFP-OC12S4

OC-12/STM-4 SFP 1310nm SM (LC)
[40 km/24.9 mi.] Link Budget: 28.0 dB

TN-SFP-OC12S8

OC-12/STM-4 SFP 1310nm SM (LC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

TN-SFP-SX (model without DMI)

TN-SFP-SXD (model with DMI)

1000BASE-SX 850nm multimode (LC)
[62.5/125 µm: 220 m/722 ft.]
Link Budget: 8.0 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.0 dB

TN-SFP-ESX5

1000BASE-SX 1300nm Ext. MM (LC)
[50/125 µm fiber only:
up to 2 km/1.2 mi.] Link Budget: 8.0 dB

TN-SFP-ESX6

1000BASE-SX 1300nm Ext. MM (LC)
[62.5/125 µm fiber only:
up to 2 km/1.2 mi.] Link Budget: 8.0 dB

TN-SFP-FC4XM

Fiber Channel 1x/2x/4x/1000BASE-SX
850nm (LC) multimode
[62.5/125 µm: 70m/246 ft.]
[50/125 µm: 150m/492 ft.]
Link Budget: 6.0 dB

TN-SFP-FC4XS5

Fiber Channel 1x/2x/4x/1000BASE-LX
1310 nm (LC) SM
[5 km/3.1 mi.] Link Budget: 10.0 dB

TN-SFP-FC4XS10

Fiber Channel 1x/2x/4x/1000BASE-LX
1310 nm (LC) SM
[10 km/6.2 mi.] Link Budget: 10.0 dB

TN-SFP-FC4XS20

Fiber Channel 1x/2x/4x/1000BASE-LX
1310 nm (LC) SM
[20 km/12.4 mi.] Link Budget: 13.0 dB

TN-SFP-FC4XS40

Fiber Channel 1x/2x/4x/1000BASE-LX
1550 nm (LC) SM
[40 km/24.9 mi.] Link Budget: 18.0 dB

TN-SFP-FC4XS80

Fiber Channel 1x/2x/4x/1000BASE-LX
1550 nm (LC) SM
[80 km/49.7 mi.] Link Budget: 26.0 dB

TN-SFP-LX1 (model with DMI)

TN-SFP-ELX1 (model without DMI)
1000BASE-LX 1310nm single mode (LC)
[10 km/6.2 mi.] Link Budget: 11.5 dB

TN-SFP-LX3

1000BASE-LX 1310nm single mode (LC)
[30 km/18.6 mi.] Link Budget: 19.0 dB

TN-SFP-LX5

1000BASE-LX 1550nm single mode (LC)
[50 km/31.1 mi.] Link Budget: 19.0 dB

TN-SFP-LX8

1000BASE-LX 1550nm single mode (LC)
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-LX12

1000BASE-LX 1550nm single mode (LC)
[120 km/74.6 mi.] Link Budget: 32.0 dB

TN-SFP-LX16

1000BASE-LX 1550nm single mode (LC)
[160 km/99.4 mi.] Link Budget: 37.0 dB

TN-SFP-LX20

1000BASE-LX 1550 nm (LC) SM
[200 km/124.3 mi.] Link Budget: 41.0 dB

TN-SFP-FC2XM

OC-48/STM-16/Fibre Channel
1x/2x/1000BASE-SX 850nm (LC) MM
[62.5/125 µm: 150 m/492 ft.]*
Link Budget: 6.0 dB
[50/125 µm: 300 m/984 ft.]*
Link Budget: 6.0 dB

TN-SFP-FC2XS2

Fibre Channel 2x/1x/OC-48/STM-16/
1000BASE-LX 1310nm single mode (LC)
[2 km/1.2 mi.] Link Budget: 8.5 dB

TN-SFP-FC2XS15

Fibre Channel 2x/1x/OC-48/STM-16/
1000BASE-LX 1310nm single mode (LC)
[15 km/9.3 mi.] Link Budget: 13.0 dB

TN-SFP-FC2XS40

Fibre Channel 2x/1x/OC-48/STM-16/
1000BASE-LX 1310nm single mode (LC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

TN-SFP-TX

100BASE-TX (RJ-45)
[100 m/328 ft.]

TN-SFP-T-MG

10/100/1000BASE-T (RJ-45)
[100 m/328 ft.]

Extended Operating Temperature:
-40°C to +85°C

TN-SFP-LX1T

1000BASE-LX 1310nm single mode (LC)
[10 km/6.2 mi.] Link Budget: 11.5 dB

TN-SFP-OC3MT

100BASE-FX/OC-3 1300nm MM (LC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

TN-SFP-OC3ST

100BASE-FX/OC-3 1310nm SM (LC)
[20 km/12.4 mi.] Link Budget: 17.0 dB