

1Gbps Fibre Transmission

01-25-X850-0-5D
01-25-X131-10XD
01-25-X131-40XD
01-25-X155-80XD



1Gbps Singlemode and Multimode SFP up to 80km

01-25-X850-0-5D
1Gbps Multimode
850nm SFP, 550m

01-25-X131-10XD
1Gbps Singlemode
1310nm SFP, 10km

01-25-X131-40XD
1Gbps Singlemode
1310nm SFP, 40km

01-25-X155-80XD
1Gbps Singlemode
1550nm SFP, 80km

OVERVIEW

The SilverNet 1Gbps Singlemode and Multimode SFP modules are ideal for use with Gigabit Ethernet switches and routers. They make extending Ethernet over distance easy using the Fibre ports on switches to daisy chain together.

The SilverNet SFP modules are capable of data rates up to 1Gbps over a distance of up to 80km. They are compliant with the SFP MSA specification and operate from -40~+70°C

Features

- Operating data rate up to 1.25Gbps
- 1310nm FP Laser Transmitter
- 10km , 40km and 80km with 9/125 µm SMF
- 850nm LED Laser Transmitter
- 550m with 50/125 µm MMF
- Single 3.3V power supply and TTL logic Interface
- Class 1 FDA and IEC60825-1 Laser Safety compliant
- Operating temperature Industrial: -40~+85°C
- Compliant with SFP MSA specification

Part Code	Description
SIL-01-25-X850-0-5D	1G Multimode 850nm SFP, 550m
SIL-01-25-X131-10XD	1G Singlemode 1310nm SFP, 10km
SIL-01-25-X131-40XD	1G Singlemode 1310nm SFP, 40km
SIL-01-25-X155-80XD	1G Singlemode 1550nm SFP, 80km

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Distributed By:

Technical Specifications

Part No.	01-25-X850-0-5D	01-25-X131-10XD	01-25-X131-40XD	01-25-X155-80XD
Maximum Ratings				
Storage Temperature	-40 to +85°C			
Supply Voltage (Vcc)	-0.5 to 4 V			
Relative Humidity (RH)	0 – 85%			
Operating Environment				
Operating Temperature (Tc)	-40 to +85°C			
Supply Voltage (Vcc)	3.135 to 3.465 V			
Supply Current (Icc)	300 mA			
Inrush Current (Isurge)	Icc+30 mA			
Max Power (Pmax)	1 W			
Electrical Characteristics - (T _{Op} = -40 to 85°C , VCC = 3.135 to 3.465 Volts)				
Transmitter Section				
Input differential impedance (R _{in})	Min:90, Typical:100 Max:110			
Single ended data input swing (V _{in PP})	Min: 250, Max: 1200 mVp-p			
Transmit Disable voltage (V _D)	Min: Vcc – 1.3, Max: Vcc V Note 1			
Transmit Enable Voltage (V _{EN})	Min: Vee – 1.3, Max: Vee+ 0.8 V			
Transmit Disable Assert Time (T _{dessert})	Max: 10 us			
Receiver Section				
Single ended data output swing (V _{out,pp})	Min: 250, Max: 800 mv Note 2			
LOS Fault (V _{losfault})	Min: Vcc -0.5, Max: Vcc host V Note 3			
LOS Normal (V _{losnorm})	Min: Vee, Max: Vee+0.5 V Note 3			
Power Supply Rejection (PSR)	Min: 100 mVpp Note 4			

Note:

1. Or open circuit.
2. Into 100 ohm differential termination.
3. LOS is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
4. All transceiver specifications are compliant with a power supply sinusoidal modulation of 20 Hz to 1.5MHz up to specified value applied through the power supply filtering network shown on page 23 of the Small Form-factor Pluggable (SFP) Transceiver Multi-Source Agreement (MSA), September 14, 2000.

Technical Specifications

Part No.	01-25-X850-0-5D	01-25-X131-10XD	01-25-X131-40XD	01-25-X155-80XD
Optical Parameters - (T _{Top} = -40 to 85°C , VCC = 3.135 to 3.465 Volts)				
Transmitter Section				
Center Wavelength	Min: 840, Typical: 850 Max: 860 nm	Min: 1270, Typical: 1310 Max: 1360 nm		Min: 1530, Typical: 1550 Max: 1570 nm
Spectral Width (RMS)	Max: .85 nm	Max: 3 nm	Max: 1 nm	
Single Mode Suppression Ration	-		Min: 30dB	
Optical Output Power	Min: -9, Max: -3 dBm Note 1		Min: -5, Max: 0 dBm Note 1	Min: 0, Max: +5 dBm Note 1
Extinction Ratio	Min: 8.2 dB			
Optical Rise/Fall Time	Max: 260 ps Note 2			
Relative Intensity Noise	Max: -120 dB/Hz	Max: -110 dB/Hz	Max: -120 dB/Hz	
Output Eye Mask	Compliant with IEEE802.3z (class 1 laser safety)			
Receiver Section				
Optical Input Wavelength	Min: 770, Max: 860 nm	Min: 1260, Max: 1360 nm		Min: 1270, Max: 1610 nm
Receiver Overload	Min: 0 dBm	Min: -3 dBm Note 3		
RX Sensitivity	Max: -18 dBm	Max: -24 dBm Note 3		
RX_LOS Assert	Min: -29 dBm	Min: -35 dBm		
RX_LOS De-assert	Max: -19 dBm	Max: -25 dBm		
RX_LOS Hysteresis	Min: 0.5 dB			
General Specifications				
Data Rate	1.25Gb/s			
Bit Error Rate	10 ⁻¹²			
Max. Supported Link Length	550m	10km	40km	80km
Total System Budget	8 dB	15 dB	22 dB	

Note:

1.

The optical power is launched into SMF/MMF
2.

20-80%
3.

Measured with PRBS 2⁷⁻¹ at 10⁻¹² BER

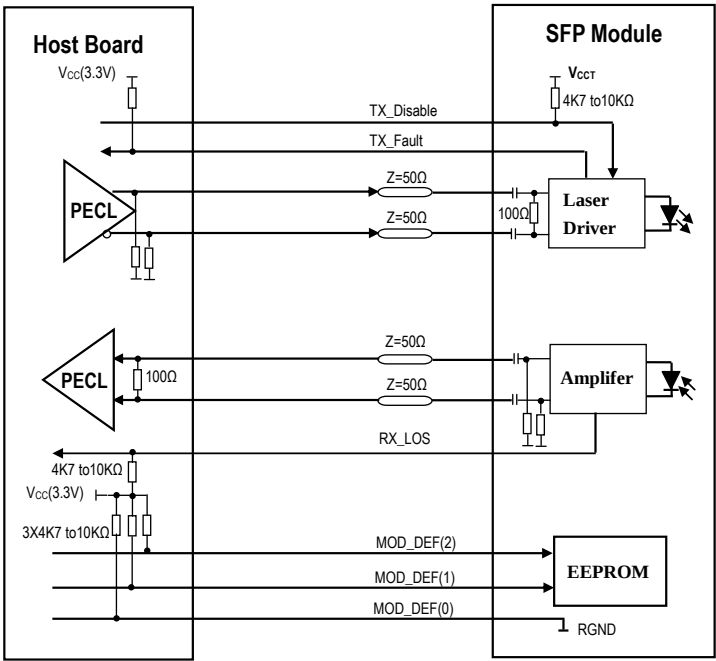
Compliance

Regulatory Compliance

Complies with international Electromagnetic Compatibility (EMC) and international safety requirements and standards (see details in Table following).

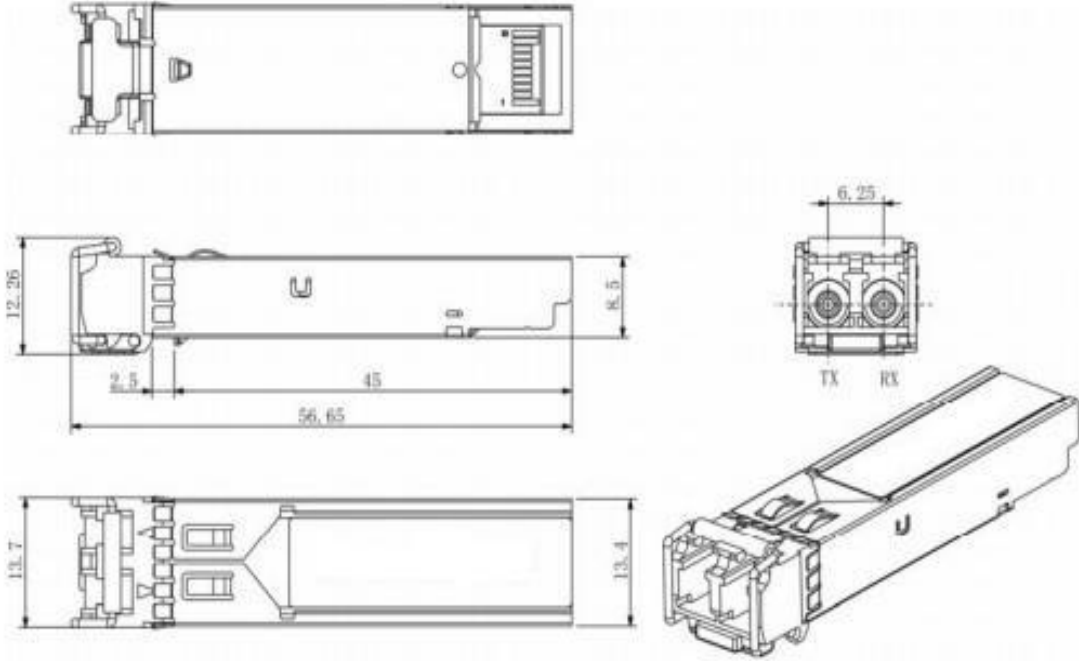
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1(>1000 V)
Electrostatic Discharge (ESD) to the Duplex LC Receptacle	IEC 61000-4-2 GR-1089-CORE	Compatible with standards
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B	Compatible with standards
Laser Eye Safety	FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2	Compatible with Class 1 laser product.

Recommended Circuit



SFP Host Recommended Circuit

Dimension Diagrams



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