

SFP Fiber Transceivers

10km (LX) and 550m (SX) links



Features

- Tested and certified to work with Open Mesh S Series Switches
- Available for 10km (LX) and 550m (SX) links
- Up to 1.25Gb/s dual data links
- Hot-pluggable SFP footprint
- 1310nm FP laser transmitter
- Duplex LC connector
- Single +3.3V power supply
- Metal enclosure for lower EMI
- Low power dissipation <700mW
- Commercial operating temperature range: 0°C to +70°C

Specifications

SFP 1GB LX

10km links

SFP 1GB SX

550m links

GENERAL SPECS		
Data Rate (BR)	1250Mb/s max ¹	1250Mb/s max ²
Bit Error Rate (BER)	10 ⁻¹² max ³	
Max. Supported Link Length	10km	550m
Warranty	1 year	
ABSOLUTE MAXIMUM RATINGS		
Maximum Supply Voltage (Vcc)	-0.5 to +4.0V	
Storage Temperature (TS)	-40 to +100°C	
Case Operating Temperature (TOP)	0 to +70°C	
Relative Humidity (RH)	0 to 85% ⁴	
ELECTRICAL CHARACTERISTICS		
Supply Voltage (Vcc)	3.00 to 3.60V	
Supply Current (Icc)	300mA max (180mA typical)	
ELECTRICAL CHARACTERISTICS: TRANSMITTER		
Input differential impedance (Rin)	100Ω typical ⁵	
Single ended data input swing (Vin, pp)	250 to 1200mV	
Transmit Disable Voltage (VD)	Vcc – 1.3 to Vcc V	
Transmit Enable Voltage (VEN)	Vee to Vee+ 0.8V	
Transmit Disable Assert Time	10us max	
ELECTRICAL CHARACTERISTICS: RECEIVER		
Single ended data output swing (Vout, pp)	300 to 800mV (400mV typical) ⁶	250 to 800mV ⁶
Data output rise time (tr)	300ps max ⁷	175ps max ⁷
Data output fall time (tf)	300ps max ⁷	175ps max ⁷

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LOS Fault (VLOS fault)	Vcc – 0.5 to VccHOST V ⁸	
LOS Normal (VLOS norm)	Vee to Vee+0.5V ⁸	
Deterministic Jitter Contribution (RXΔDJ)	80ps max ⁹	
Total Jitter Contribution (RXΔTJ)	122.4ps max	
OPTICAL CHARACTERISTICS: TRANSMITTER		
Output Opt. Power (PO)	-9 to -3dBm ¹⁰	
Optical Wavelength (λ)	1275 to 1350nm (1310nm typical)	830 to 860nm (850nm typical)
Spectral Width (σ)	3nm max	.85nm max
Side Mode Suppression Ratio (SMSR)	–	30dB min
Optical Rise/Fall Time (tr/tf)	260ps max (170ps typical) ¹¹	175ps Max ¹¹
Deterministic Jitter Contribution (TXΔDJ)	.07UI ¹²	
Total Jitter Contribution (TXΔTJ)	.007UI	
Optical Extinction Ratio (ER)	9dB min	9dB min (10dB typical)
OPTICAL CHARACTERISTICS: RECEIVER		
Average Rx Sensitivity (RSENS)	-24dBm max ¹³	-20dBm max ¹
Maximum Received Power (RXMAX)	0dBm min	-2dBm min
Optical Center Wavelength (λC)	1270 to 1600nm	770 to 860nm (850nm typical)
LOS De-Assert (LOSD)	-25dBm max	-24dBm max
LOS Assert (LOSA)	-36dBm min	-35dBm min
LOS Hysteresis	.5dB min	
ENVIRONMENTAL SPECS		
Case Operating Temperature (Top)	0 to +70°C	
Storage Temperature (Tsto)	-40 to +100°C	

REFERENCE

1. Gigabit Ethernet and 1x Fibre Channel compliant.
2. 1.25G and 1.063G compliant.
3. Tested with a PRBS 2⁷-1 data pattern.
4. Non condensing.
5. AC coupled.
6. Into 100 ohm differential termination.
7. 20 – 80 %
8. LOS is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
9. Measured with DJ-free data input signal. In actual application, output DJ will be the sum of input DJ and ΔDJ.
10. Class 1 Laser Safety.
11. Unfiltered, 20-80%.
12. Measured with DJ-free data input signal .In actual application, output DJ will be the sum of input DJ and ΔDJ.
13. Measured with PRBS 2⁷-1 at 10⁻¹² BER.