

Features

- Up to 4.25Gb/s data links with DDM
- VSCSEL transmitter and PIN photo-detector
- Duplex LC connector
- Metal enclosure, for lower EMI
- Electrical interface compliant to SFF-8431
- 2-wire interface for management
Specifications compliant with SFF 8472
- Single 3.3V power supply
- Case operating temperature range:
Commercial: 0°C to +70°C
Extended: -10°C to +80°C
Industrial: -40°C to +85°C



Applications

- 1000 Base-LX Ethernet
- 4xFC at 4.25Gbps
- 2xFC at 2.125 Gbps
- 1xFC at 1.0625Gbps

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	3.15		3.46	V	
Storage Temperature	TS	-40		85	°C	
Case Operating Temperature	Tcase	-40		85	°C	

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Supply Voltage	Vcc	3.15	3.3	3.46	V	
Supply Current	Icc			330	mA	
Transmitter						
Input differential impedance	Rin		100		Ω	1
Differential data input swing	Vin,pp	180		700	mV	
Transmit Disable Voltage	VD	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2
Transmit Disable Assert Time				10	us	
Receiver						
Differential data output swing	Vout,pp	300		850	mV	3
Data output rise time	tr	28			ps	4
Data output fall time	tf	28			ps	4
LOS Fault	VLOS fault	Vcc-1.3		VccHOST	V	5
LOS Normal	VLOS norm	Vee		Vee+0.8	V	5
Power Supply Rejection	PSR	100			mVpp	6

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Into 100 ohms differential termination.
4. 20 – 80 % Measured with Module Compliance Test Board and OMA test pattern.
5. Loss Of Signal is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
6. Receiver sensitivity is compliant with power supply sinusoidal modulation of 20 Hz to 1.5 MHz up to specified value applied through the recommended power supply filtering network.

Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Output Opt. Pwr	POUT	-9		-2.5	dBm	1
Optical Wavelength	λ	840	850	860	nm	
Spectral Width (RMS)	σ			0.85	nm	
Optical Extinction Ratio	ER	6			dB	
RIN	RIN			-128	dB/Hz	
Transmitter Jitter (peak to peak)		FC-P1-4 requirements				
Receiver						
Rx Sensitivity @ 1.06Gb/s	RSENS1			-20.0	dBm	2
Rx Sensitivity @ 2.125Gb/s	RSENS2			-18.0	dBm	2
Rx Sensitivity @ 4.25Gb/s	RSENS3			-16.0	dBm	2
Input Saturation Power (Overload)	PSAT	0			dBm	
Input Optical Wavelength	λ_C	840		860	nm	
LOS De -Assert	LOSD			-17	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5	1.0		dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.
2. With worst-case extinction ratio. Measured with a PRBS 2^{23} -1 test pattern, $BER < 10^{-12}$.

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-4GSXD	Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 550m	-9 to -2.5	-16 to 0	4	0.55	YES
SV-SFP-4GSXDH	Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 550m	-9 to -2.5	-16 to 0	4	0.55	YES