

**Features**

- Up to 2.5Gb/s data links
- DFB laser transmitter and PIN photo-detector
- Up to 20km on 9/125µm SMF
- Hot-pluggable SFP footprint
- Duplex LC/UPC type pluggable optical interface
- Low power dissipation
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Support Digital Diagnostic Monitoring interface
- Single +3.3V power supply
- Compliant with SFF-8472
- Case operating temperature
- Commercial: 0°C to +70°C
- Extended: -10°C to +80°C
- Industrial: -40°C to +85°C



**Applications**

- Switch to Switch Interface
- Gigabit Ethernet
- Switched Backplane Applications
- Router/Server Interface
- Other Optical Links

**Absolute Maximum Ratings**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		85	°C	
Storage Ambient Humidity	HA	5		95	%	
Power Supply Voltage	VCC	-0.5		4	V	
Signal Input Voltage		-0.3		Vcc+0.3	V	
Receiver Damage Threshold		+5			dBm	

**Recommended Operating Conditions**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note	
Case Operating Temperature	Tcase	0		70	°C		
		-10		80			
		-40		85			
Ambient Humidity	HA	5		70	%	Non-condensing	
Power Supply Voltage	VCC	3.13	3.3	3.47	V		
Power Supply Current	ICC			280	mA		
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz	
Data Rate			2500/2500		Mbps	TX Rate/RX Rate	
Transmission Distance				20	KM		
Coupled Fiber	Single mode fiber						9/125um SMF

**Specification of Transmitter**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-5		0	dBm	Note (1)

Extinction Ratio	ER	8.2			dB	DFB Laser	
Center Wavelength	$\lambda_C$	1290	1310	1330	nm		
Side Mode Suppression Ratio	SMSR	30					
Spectrum Bandwidth(-20dB)	$\sigma$			1	nm		
Transmitter OFF Output Power	POff			-45	dBm		
Differential Line Input Impedance	RIN	90	100	110	Ohm		
Output Eye Mask	Compliant with G.959(class 1 laser safety)						

Note (1): Measure at 2<sup>23</sup>-1 NRZ PRBS pattern

### Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda_{IN}$	1270		1610	nm	PIN-TIA
Receiver Sensitivity	PIN			-19	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	0			dBm	
Los Of Signal Assert	PA			-20	dBm	
Los Of Signal De-assert	PD	-35			dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1): Measured with Light source 1310nm, ER=8.2dB; BER = <math>10^{-12}</math> @PRBS=2<sup>23</sup>-1 NRZ

Note (2): When LOS de-asserted, the RX data +/- output is High-level (fixed)

### Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Total Supply Current	ICC			A	mA	Note (1)
Transmitter Disable Input-High	V <sub>DISH</sub>	2		V <sub>CC</sub> +0.3	V	
Transmitter Disable Input-Low	V <sub>DISL</sub>	0		0.8	V	
Transmitter Fault Input-High	V <sub>DISL</sub>	2		V <sub>CC</sub> +0.3	V	
Transmitter Fault Input-Low	V <sub>TxFH</sub>	0		0.8	V	
<b>Receiver</b>						
Total Supply Current	ICC			B	mA	Note (1)
LOSS Output Voltage-High	V <sub>LOSH</sub>	2		V <sub>CC</sub> +0.3	V	LVTTL
LOSS Output Voltage-Low	V <sub>LOSL</sub>	0		0.8	V	

Note (1): A (TX) + B (RX) = 280mA (Not include termination circuit)

### Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-OC48LXD2	Starview SFP module OC48/ STM16 data rate of 2.488Gbps, Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 20km	-5 to 0	-19 to 0	14	20	YES
SV-SFP-OC48LXD2H	Starview SFP module OC48/ STM16 data rate of 2.488Gbps, Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 20km	-5 to 0	-19 to 0	14	20	YES