

# SV-SFP-LXD2

1.25Gb/s, 1310nm, Single mode, 20km,  
with DDM Function



## Features

- Up to 1.25Gb/s data links
- FP 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  
Industrial: -40°C to +85°C

## Applications

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

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFP-LXD2</b>	Starview SFP module with Digital Diagnostic Monitoring (DDM), 1000Base-LX 1310nm SM (LC), distance up to 20km	-9 to -3	-20 to -3	11	20	YES
<b>SV-SFP-LXD2H</b>	Starview SFP module with Digital Diagnostic Monitoring (DDM), 1000Base-LX 1310nm SM (LC), Industrial temperature range, distance up to 20km	-9 to -3	-20 to -3	11	20	YES

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	Ts	-40		85	°C
Relative Humidity	RH	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	SV-SFP-LXD2
		-10		80		
		-40		85		SV-SFP-LXD2H
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			1250/1250		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	-9		-3	dBm	Note (1)
Extinction Ratio	ER	9			dB	
Center Wavelength	$\lambda_C$	1270	1310	1360	nm	FP Laser
Spectrum Bandwidth(RMS)	$\sigma$			3.5	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Differential Line Input Impedance	RIN	90	100	110	Ohm	
Output Eye Mask	Compliant with IEEE802.3 z (class 1 laser safety)					

Note (1): Measure at 2<sup>17</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			-20	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-3			dBm	
Los Of Signal Assert	PA			-22	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=9dB; BER =  $<10^{-12}$  @PRBS=2<sup>7</sup>-1 NRZ.

Note (2): When SD De-Assert, the RX-LOS output is High-level (fixed).

## Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Total Supply Current	ICC			A	mA	Note (1)
Transmitter Disable Input-High	VDISH	2		V <sub>CC</sub> +0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VTxFH	2		V <sub>CC</sub> +0.3	V	
Transmitter Fault Input-Low	VTxFL	0		0.8	V	
Receiver						
Total Supply Current	ICC			B	mA	Note (1)
LOSS Output Voltage-High	VLOSH	2		V <sub>CC</sub> +0.3	V	LVTTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

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