

# SV-SFP-4GLXD1

125Mbps to 4.25Gbps, 1310nm, Single mode, 10km, with DDM



## Features

- Up to 4.25Gb/s data links with DDM
- DFB laser transmitter and PIN photo-detector.
- Up to 10km 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

## Applications

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

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFP-4GLXD1</b>	Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 10km	-6 to -1	-18 to 0.5	12	10	YES
<b>SV-SFP-4GLXD1H</b>	Starview SFP module Multi-rate 125Mbps to 4.25Gbps Fiber Optic 1310nm SM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 10km	-6 to -1	-18 to 0.5	12	10	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-4GLXD1
		-10		80		
		-40		85		SV-SFP-4GLXD1H
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			360	mA	
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz
Data Rate			4250/4250		Mbps	TX Rate/RX Rate
Transmission Distance				10	KM	
Coupled Fiber	Single mode fiber					9/125um SMF

## Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-6		-1	dBm	Note (1)
Extinction Ratio	ER	6			dB	
Center Wavelength	$\lambda_C$	1290	1310	1330	nm	DFB Laser
Side Mode Suppression Ratio	SMSR	30			dB	
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		FC-PI requirements				

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

## Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Center Wavelength	$\lambda_C$	1270		1610		PIN-TIA
Rx Sensitivity @ 1.06Gb/s	RSENS1			-21	dBm	Note (1)
Rx Sensitivity @ 2.125Gb/s	RSENS2			-20	dBm	Note (1)
Rx Sensitivity @ 4.25Gb/s	RSENS3			-18	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	0.5			dBm	
Los Of Signal Assert	PA			-19	dBm	
Los Of Signal De-assert	PD	-30			dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1). With worst-case extinction ratio. Measured with a PRBS 2<sup>23</sup>-1test pattern, BER<10<sup>-12</sup>.

Note (2). When LOS de-asserted, the RX data+/- 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	
LOSS Output Voltage-Low	VLOSL	0		0.8	V	LVTTL

Note (1). A (TX)+ B (RX) = 360mA (Not include termination circuit)