

# SV-XFP-ESR

9.95Gbps to 11.3Gbps, 1300nm MM (LC), distance up to 2km



## Features

- Hot-pluggable XFP footprint
- Supports 9.95Gb/s to 11.3Gb/s bit rates
- XFI Loopback Mode
- RoHS-6 Compliant (lead-free)
- Power dissipation <2.0W
- Case temperature range:0°C to 70°C
- Maximum link length of 2km
- FP laser and PIN receiver
- Full Duplex LC connector
- No Reference Clock required
- Built-in digital diagnostic functions
- Standard bail release mechanism

## Applications

- 10GBASE-LR/LW 10G Ethernet
- 10G Fiber Channel
- SONET OC-192 SR-1 SDH STM I-64.1

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-XFP-ESR</b>	Starview XFP module with Digital Diagnostic Monitoring (DDM), Data rate from 9.95Gbps to 11.3Gbps supporting OC192/ STM64/ 10G LAN/ 10G FC, 1300nm MM (LC), distance up to 2km	-6 to -1	-15 to 0.5	6	2	YES

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	V <sub>cc3</sub>	-0.5		4.0	V
Storage Temperature	T <sub>s</sub>	-40		85	°C
Case Operating Temperature	T <sub>case</sub>	0		70	°C

## Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Average Optical Power	P <sub>i</sub>	-6		-1	dBm	
Optical Wavelength	λ	1290	1310	1330	nm	
Side mode Suppression ratio	SMSR	30			dB	
Optical Extinction Ratio	ER	3.5	5		dB	
Transmitter and Dispersion Penalty	TDP			3.2	dB	
Average Launch power of transmitter	P <sub>OFF</sub>			-30	dBm	
Tx Jitter	T <sub>xj</sub>	Per 802.3ae requirements				
Relative Intensity Noise	RIN			-130	dB/Hz	
<b>Receiver</b>						
Receiver Sensitivity	R <sub>SENS</sub>			-15	dBm	1
Input Saturation Power (Overload)	Psat	0.5			dBm	
Wavelength Range	λ <sub>c</sub>	1270		1610	nm	
Receiver Reflectance	R <sub>rx</sub>			-27	dB	
LOS De-Assert	LOS <sub>D</sub>			-18	dBm	
LOS Assert	LOS <sub>A</sub>	-32			dBm	
LOS Hysteresis		0.5			dB	

Note(1): Measured with BER<10<sup>-12</sup>@10.3Gbps, 231 - 1 PRBS.

## General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Bit Rate	BR	9.95		11.3	Gb/s	1
Bit Error Ratio	BER			10 <sup>-12</sup>		2
Max. Supported Link Length	LMAX			2	km	1

Note(1):10GBASE-LR/LW.

Note(2):Tested with a231 - 1 PRBS, 10.3Gbps.

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage #2	Vcc3	3.13		3.45	V	
Supply Current – Vcc3 supply	Icc3			450	mA	
Module total power	P			2.0	W	1
<b>Transmitter</b>						
Input differential impedance	Rin		100		Ω	2
Differential data input swing	Vin,pp	120		820	mV	
Transmit Disable Voltage	VD	2.0		Vcc	V	3
Transmit Enable Voltage	VEN	GND		GND+ 0.8	V	
Transmit Disable Assert Time				10	us	
<b>Receiver</b>						
Differential data output swing	Vout,pp	340	650	850	mV	4
Data output rise time	tr			38	ps	5
Data output fall time	tf			38	ps	5
LOS Fault	VLOS fault	Vcc – 0.5		VccHOST	V	6
LOS Normal	VLOS norm	GND		GND+0.5	V	6
Power Supply Rejection	PSR					7

Note(1):Maximum total power value is specified across the full temperature and voltage range.

Note(2):After internal AC coupling.

Note(3):Or open circuit.

Note(4):Into 100 ohms differential termination.

Note(5):These are unfiltered 20-80% values

Note(6):Loss Of Signal is open collector to be pulled up with a 4.7k – 10kohm resistor to 3.15 – 3.6V.

Logic 0 indicates normal operation; logic 1 indicates no signal detected.

Note(7):Per Section 2.7.1. in the XFP MSA Specification.