

# SV-XFP-ZR10

9.95Gbps to 11.3Gbps, 1550nm SM (LC), distance up to 100km



## Features

- Hot-pluggable XFP footprint
- Supports 9.95Gb/s to 11.3Gb/s bit rates
- Supports Lineside and XFI loopback
- RoHS-6 Compliant (lead-free)
- Power dissipation <3.5W
- Case temperature range:0°C to 70°C
- Maximum link length of 100km
- Cooled 1550nm EML and APD Receiver
- Full Duplex LC connector
- No Reference Clock required
- Built-in digital diagnostic functions
- Standard bail release mechanism

## Applications

- 10GBASE Ethernet
- 10G Fiber Channel
- SONET OC-192 &SDH STM 64

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-XFP-ZR10</b>	Starview XFP module with Digital Diagnostic Monitoring (DDM), Data rate from 9.95Gbps to 11.3Gbps supporting OC192/ STM64/ 10G LAN/ 10G FC, 1550nm SM (LC), distance up to 100km	1 to 5	-25 to -6	26	100	YES

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage 1	Vcc3	-0.5		4.0	V
Maximum Supply Voltage 2	Vcc5	-0.5		6.0	V
Storage Temperature	TS	-40		85	°C
Case Operating Temperature	Tcase	0		70	°C

## Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Output Optical Power	Pf	1		5	dBm	
Optical Wavelength	$\lambda$	1530	1550	1570	nm	
Side mode Suppression ratio	SMSR	30			dB	
Optical Extinction Ratio	ER	9			dB	
Transmitter and Dispersion Penalty	TDP			3	dB	
Average Launch power of OFF transmitter	POFF			-30	dBm	
Relative Intensity Noise	RIN					
Output Optical Power	Pf	1		5	dBm	
Receiver						
Receiver Sensitivity	Psen			-25	dBm	1
Input Saturation Power (Overload)	Psat	-6			dBm	
Wavelength Range	$\lambda_c$	1270		1610	nm	
Receiver Reflectance	Rrx			-27	dB	
LOS De-Assert	LOSD			-27	dBm	
LOS Assert	LOSA	-37			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	
Bit Error Ratio	BER			10 <sup>-12</sup>		1
Max. Supported Link Length	LMAX			100	km	

Note(1): Tested with 10.3Gbps, 2<sup>31</sup> – 1 PRBS.

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Main Supply Voltage	Vcc5	4.75		5.25	V	
Supply Voltage #2	Vcc3	3.13		3.45	V	
Supply Current – Vcc5 supply	Icc5			350	mA	
Supply Current – Vcc3 supply	Icc3			450	mA	
Module total power	P			3.5	W	1
<b>Transmitter</b>						
Input differential impedance	Rin		100		$\Omega$	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		See Note 6 below			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 Specification1.