

## Features

- Hot-pluggable XFP footprint
- Supports 9.95Gb/s to 11.3Gb/s bit rates
- XFI Loopback Mode
- RoHS-6 Compliant (lead-free)
  - 1270nm DFB laser and PIN receiver for SV-XFP-LR21
  - 1330nm DFB laser and PIN receiver for SV-XFP-LR22
- Power dissipation < 2W
- Case operating temperature: 0 °C ~ 70 °C
- Single + 3.3V Power Supply
- Up to 10km transmission on SMF
- 2-wire interface with integrated Digital Diagnostic monitoring
- EEPROM with Serial ID Functionality
- Compliant with XFP MSA with LC connector



## Applications

- 10GBASE-BX 10.3125Gb/s Ethernet
- 10GBASE-BX 9.953Gb/s Ethernet
- SONET OC-192 SR-1 SDH STM I-64.1

## Absolute Maximum Ratings

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

## Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0	-	70	°C	Without air flow
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-	-	450	mA	
Data Rate	BR	9.95	10.3125	11.3	Gbps	
Transmission Distance	TD		-	20	km	
Coupled fiber	Single mode fiber					SMF

## Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Average Launched Power	PO	-5	-	0	dBm	
Average Launched Power(Laser Off)	POUT-OFF	-	-	-30	dBm	Note (1)
Center Wavelength Range	$\lambda_C$	1260	1270	1280	nm	SV-XFP-LR21
		1320	1330	1340	nm	SV-XFP-LR22
Side mode suppression ratio	SMSR	30	-	-	dB	
Spectrum Bandwidth(-20dB)	$\sigma$	-	-	1	nm	
Extinction Ratio	ER	3.5		-	dB	Note (2)
Output Eye Mask	Compliant with IEEE 802.3ae					Note (2)
<b>Receiver</b>						
Input Optical Wavelength	$\lambda_{IN}$	1320	1330	1340	nm	SV-XFP-LR21
		1260	1270	1280	nm	SV-XFP-LR22
Receiver Sensitivity	Psen	-	-	-15	dBm	Note (3)
Input Saturation Power (Overload)	PSAT	0.5	-	-	dBm	Note (3)
LOS -Assert Power	PA	-30	-	-	dBm	
LOS -Deassert Power	PD	-	-	-18	dBm	
LOS -Hysteresis	PHys	0.5	-	4	dB	

### Note :

1. The optical power is launched into SMF
2. Measured with RPBS 2<sup>^</sup>31-1 test pattern @10.3125Gbps
3. Measured with RPBS 2<sup>^</sup>31-1 test pattern @10.3125Gbps BER=<10<sup>-12</sup>

## Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Total power supply current	Icc	-	-	450	mA	
<b>Transmitter</b>						
Differential Data Input Voltage	VDT	120	-	820	mVp-p	
Differential line input Impedance	RIN	85	100	115	Ohm	
Transmitter Fault Output-High	VFaultH	2.4	-	Vcc	V	
Transmitter Fault Output-Low	VFaultL	-0.3	-	0.8	V	
Transmitter Disable Voltage- High	VDisH	2	-	Vcc+0.3	V	
Transmitter Disable Voltage- low	VDisL	-0.3	-	0.8	V	
<b>Receiver</b>						

Differential Data Output Voltage	VDR	300	-	850	mVp-p	
Differential line Output Impedance	ROUT	80	100	120	Ohm	
Receiver LOS Pull up Resistor	RLOS	4.7	-	10	KOhm	
Data Output Rise/Fall time	tr/tf	20	-	-	ps	
LOS Output Voltage-High	VLOSH	2	-	Vcc	V	
LOS Output Voltage-Low	VLOSL	-0.3	-	0.4	V	

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-XFP-LR21</b>	Starview Single Fiber Bi-Directional XFP module, Data rate from 9.95Gbps to 11.1Gbps supporting OC192/ STM64/ 10G LAN/ 10G FC, 1270nm TX/ 1330nm RX single fiber SM (LC), distance up to 20km	-5 to 0	-15 to 0.5	10	20	YES
<b>SV-XFP-LR22</b>	Starview Single Fiber Bi-Directional XFP module, Data rate from 9.95Gbps to 11.1Gbps supporting OC192/ STM64/ 10G LAN/ 10G FC, 1330nm TX/ 1270nm RX single fiber SM (LC), distance up to 20km	-5 to 0	-15 to 0.5	10	20	YES