

## Features

- Up to 1.25Gb/s data links
- DFB laser transmitter and APD receiver
- Up to 120km 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
- Single +3.3V power supply
- Compliant with SFF-8472
- Case operating temperature  
Commercial: 0°C to +70°C  
Extended: -10°C to +80°C  
Industrial: -40°C to +85°C



## Applications

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

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
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-ZXD12
		-10		80	°C	
		-40		85	°C	SV-SFP-ZXD12H
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			300	mA	
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz
Data Rate			1250/1250		Mbps	TX Rate/RX Rate
Transmission Distance				120	KM	
Coupled Fiber		Single mode fiber				9/125um SMF

## Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	0		5	dBm	Note (1)

Extinction Ratio	ER	9			dB	
Center Wavelength	$\lambda$ C	1530	1550	1570	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	Compliant with IEEE802.3 z (class 1 laser safety)					

Note (1): Measure at 2<sup>7</sup>-1 NRZ PRBS pattern.

### Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda$ IN	1270		1610	nm	APD
Receiver Sensitivity	PIN			-31	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-10			dBm	
Los Of Signal Assert	PA			-31	dBm	
Los Of Signal De-assert	PD	-38			dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1): Measured with Light source 1550nm, ER=9dB; BER =<10<sup>-12</sup> @PRBS=2<sup>7</sup>-1 NRZ

Note (2): When LOS de-asserted, the RX data+/- output is High-level (fixed)

### Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
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	
<b>Receiver</b>						
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) = 300mA (Not include termination circuit)

### Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-ZXD12	Starview SFP module with Digital Diagnostic Monitoring (DDM), 1000Base-ZX 1550nm SM (LC), distance up to 120km	0 to 5	-31 to -10	31	120	YES
SV-SFP-ZXD12H	Starview SFP module with Digital Diagnostic Monitoring (DDM), Industrial temperature range, 1000Base-ZX 1550nm SM (LC), distance up to 120km	0 to 5	-31 to -10	31	120	YES