

## Features

- Up to 155Mb/s data links
- DFB laser transmitter and PIN photo-detector
- Up to 80km 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: 0°C to +70°C



## Applications

- Switch to Switch Interface
- Fast 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	
Storage Ambient Humidity	HA	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		
Ambient Humidity	HA	5		70	%	Non-condensing	
Power Supply Voltage	VCC	3.13	3.3	3.47	V		
Power Supply Current	ICC			280	mA		
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz	
Data Rate			155/155		Mbps	TX Rate/RX Rate	
Transmission Distance				80	KM		
Coupled Fiber		Single mode fiber					9/125um SMF

### Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-5		0	dBm	Note (1)
Extinction Ratio	ER	8.2			dB	
Center Wavelength	$\lambda_C$	(1XX0)- $\Delta\lambda$	1XX0	(1XX0)+ $\Delta\lambda$	nm	DFB Laser Note (2)
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 G.957(class 1 laser safety)					

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

Note (2): "XX" is: 27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59 and 61; " $\Delta\lambda$ " is 7.5

### Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda_{IN}$	1270		1610	nm	PIN-TIA
Receiver Sensitivity	PIN			-33	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-10			dBm	
Los Of Signal Assert	PA			-34	dBm	
Los Of Signal De-assert	PD	-40			dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1): Measured with Light source 1XX0 nm, ER=9dB; BER = <math>10^{-12}</math> @PRBS=2<sup>23</sup>-1 NRZ , "XX" is: 27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59 and 61

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	VDISL	2		V <sub>CC</sub> +0.3	V	
Transmitter Fault Input-Low	VTxFH	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	LVTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

Note (1): A (TX) + B (RX) = 280mA (Not include termination circuit)

## λC Wavelength Guide

Wavelength	Code	Wavelength	Code
1270 nm	27	1450 nm	45
1290 nm	29	1470 nm	47
1310 nm	31	1490 nm	49
1330 nm	33	1510 nm	51
1350 nm	35	1530 nm	53
1370 nm	37	1550 nm	55
1390 nm	39	1570 nm	57
1410 nm	41	1590 nm	59
1430 nm	43	1610 nm	61

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFP-1GZX8CDxx	Starview SFP module Multi-rate 155Mbps to 1.25 Gbps, Fiber Optic CWDM SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 80km	-5 to 0	-33 to -10	28	80	YES

XX refers to CWDM Wavelength range 1270nm to 1610nm, xx = 27, 29... 61