

# SV-SFP-ZXD8ADxx

Multi-rate 155Mbps to 1.25 Gbps, DWDM 80km with DDM



## Features

- DWDM DFB Laser diode transmitter,
- PIN photodiode receiver
- Compliant with DWDM SFP MSA
- SFF-8472 with duplex LC receptacle
- Power dissipation < 1.2W
- Metal enclosure for lower EMI
- 3.3V Single power supply
- 50GHz ITU Grid, C Band
- Digital diagnostic monitoring
- 80 km with 9/125 μm single mode fiber (SMF) of maximum distances
- ROHS-6 compliant
- Case operating temperature: 0° C to +70° C

## Applications

- C Band DWDM networks
- SONET/SDH networks
- Fiber channel
- Gigabit Ethernet

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFP-ZXD8AD##</b>	Starview SFP module Multi-rate 155Mbps to 1.25 Gbps DWDM ####nm SM (LC) 50GHz spacing with Digital Diagnostic Monitoring (DDM), distance up to 80km where ## denotes *[see DWDM Wavelength Guide]	0 to 4	-26 to -3	26	80	YES

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	T <sub>s</sub>	-40		85	°C
Relative Humidity	RH	5		95	%
Power Supply Voltage	VCC	-0.5		4	V
Signal Input Voltage		-0.3		V <sub>cc</sub> +0.3	V
Receiver Damage Threshold		+5			dBm

## Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	T <sub>case</sub>	0		70	°C	
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			360	mA	
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz
Data Rate			1250/1250		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
Center Wavelength Spacing			50		GHz	
Center Wavelength	$\lambda$	X-80	X	X+80	pm	
Average Output Power	POUT	0		4	dBm	
Extinction Ratio	ER	9			dB	
Side Mode Suppression Ratio	SMSR	30			dB	
Spectrum Bandwidth(-20dB)	$\sigma$			0.3	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Chromatic dispersion tolerance				1600	ps/nm	
Output Eye Mask	Compliant with ITU recommendation G.957					

## Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda_{IN}$	1270		1610	nm	APD
Receiver Sensitivity	PIN			-26	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-3			dBm	
LOS De-assert	LOSD			-26	dBm	
LOS Assert	LOSA	-38			dBm	Note (2)
LOS Hysteresis		0.5	2	6	dB	

Note (1): Measured with Light source 1550nm, ER=9dB; BER = $<10^{-12}$  @PRBS=2<sup>23</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
Transmitter						
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	
Receiver						
Total Supply Current	ICC			B	mA	Note 1
LOSS Output Voltage-High	VLOSH	2		V <sub>CC</sub> +0.3	V	
LOSS Output Voltage-Low	VLOSL	0		0.8	V	LVTTL

Note 1: A (TX) + B (RX) = 360mA (Not include termination circuit)

## DWDM Wavelength Guide

Channel	Wavelength(nm)	Frequency(THZ)	Channel	Wavelength(nm)	Frequency(THZ)
17	1563.86	191.70	39	1546.12	193.90
17.5	1563.45	191.75	39.5	1545.72	193.95
18	1563.05	191.80	40	1545.32	194.00
18.5	1562.64	191.85	40.5	1544.92	194.05
19	1562.23	191.90	41	1544.53	194.10
19.5	1561.83	191.95	41.5	1544.13	194.15
20	1561.42	192.00	42	1543.73	194.20
20.5	1561.01	192.05	42.5	1543.33	194.25
21	1560.61	192.10	43	1542.94	194.30
21.5	1560.20	192.15	43.5	1542.54	194.35
22	1559.79	192.20	44	1542.14	194.40
22.5	1559.39	192.25	44.5	1541.75	194.45
23	1558.98	192.30	45	1541.35	194.50
23.5	1558.58	192.35	45.5	1540.95	194.55
24	1558.17	192.40	46	1540.56	194.60
24.5	1557.77	192.45	46.5	1540.16	194.65

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25	1557.36	192.50	47	1539.77	194.70
25.5	1556.96	192.55	47.5	1539.37	194.75
26	1556.55	192.60	48	1538.98	194.80
26.5	1556.15	192.65	48.5	1538.58	194.85
27	1555.75	192.70	49	1538.19	194.90
27.5	1555.34	192.75	49.5	1537.79	194.95
28	1554.94	192.80	50	1537.40	195.00
28.5	1554.54	192.85	50.5	1537.00	195.05
29	1554.13	192.90	51	1536.61	195.10
29.5	1553.73	192.95	51.5	1536.22	195.15
30	1553.33	193.00	52	1535.82	195.20
30.5	1552.93	193.05	52.5	1535.43	195.25
31	1552.52	193.10	53	1535.04	195.30
31.5	1552.12	193.15	53.5	1534.64	195.35
32	1551.72	193.20	54	1534.25	195.40
32.5	1551.32	193.25	54.5	1533.86	195.45
33	1550.92	193.30	55	1533.47	195.50
33.5	1550.52	193.35	55.5	1533.07	195.55
34	1550.12	193.40	56	1532.68	195.60
34.5	1549.72	193.45	56.5	1532.29	195.65
35	1549.32	193.50	57	1531.90	195.70
35.5	1548.91	193.55	57.5	1531.51	195.75
36	1548.51	193.60	58	1531.12	195.80
36.5	1548.11	193.65	58.5	1530.72	195.85
37	1547.72	193.70	59	1530.33	195.90
37.5	1547.32	193.75	59.5	1529.94	195.95
38	1546.92	193.80	60	1529.55	196.00
38.5	1546.52	193.85	60.5	1529.16	196.05
Non-ITU	Peak wavelength between 1528.77nm-1563.86		61	1528.77	196.10