

SV-SFP-ZXD12ADxx

Multi-rate 155Mbps to 1.25 Gbps, DWDM
120km with DDM



Features

- DWDM DFB Laser diode transmitter,
- APD 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
- 120 km with 9/125 μm single mode fiber (SMF)
- of maximum interconnect 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
SV-SFP-ZXD12AD##	Starview SFP module Multi-rate 155Mbps to 1.25 Gbps DWDM ####nm SM (LC) 50GHz spacing with Digital Diagnostic Monitoring (DDM), distance up to 120km where ## denotes *[see DWDM Wavelength Guide]	0 to 5	-30 to -6	30	120	YES

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
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	
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				120	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	λ	X-80	X	X+80	pm	
Average Output Power	POUT	0		5	dBm	
Extinction Ratio	ER	9			dB	
Side Mode Suppression Ratio	SMSR	30			dB	
Spectrum Bandwidth(-20dB)	σ			0.3	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Chromatic dispersion tolerance				2400	ps/nm	
Output Eye Mask	Compliant with ITU recommendation G.957					

Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	λ_{IN}	1270		1610	nm	APD
Receiver Sensitivity	PIN			-30	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-6			dBm	
LOS De-assert	LOSD			-31	dBm	
LOS Assert	LOSA	-40			dBm	Note (2)
LOS Hysteresis		0.5	2	6	dB	

Note (1): Measured with Light source 1550nm, ER=9dB; BER = $<10^{-12}$ @PRBS=2²³-1 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 _{CC} +0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VTxFH	2		V _{CC} +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 _{CC} +0.3	V	LVTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

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

DATASHEET 4.1

24.5	1557.77	192.45	46.5	1540.16	194.65
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