

SV-SFP-ZXD12Dxx

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



Features

- Transceiver unit with independent DWDM DFB Laser diode transmitter APD photodiode receiver
- Compliant with DWDM SFP MSA
- SFF-8472 with duplex LC receptacle
- Hot-pluggable
- Metal enclosure for lower EMI
- 3.3V Single power supply
- 100GHz ITU Grid, C Band
- Wavelength controlled within $\pm 0.1\text{nm}$ over life and temperature
- Digital diagnostic monitoring
- 120 km with 9/125 μm single mode fiber (SMF) of maximum interconnect distances
- Case operating temperature: 0°C to $+70^\circ\text{C}$

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-ZXD12D##	Starview SFP module Multi-rate 155Mbps to 1.25 Gbps, DWDM SM (LC) with 100GHz spacing, distance up to 120km, where ## denotes *[see DWDM Wavelength Guide]	0 to 5	-30 to -10	30	120	YES

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	T _s	-40		85	°C
Storage Ambient Humidity	HA	5		95	%
Power Supply Voltage	VCC	-0.5		4	V
Signal Input Voltage		-0.3		V _{CC} +0.3	V
Receiver Damage Threshold		+5			dBm

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	T _{case}	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		300		mA	
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz
Data Rate			1250/1250		Mbps	TX Rate/RX Rate
Transmission Distance						

Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Center Wavelength Spacing			100		GHz	
Center Wavelength	λ	X-100	X	X+100	pm	Note (1)
Average Output Power	POUT	0		5	dBm	
Extinction Ratio	ER	8.2			dB	
Side Mode Suppression Ratio	SMSR	30			dB	
Spectrum Bandwidth(-20dB)	σ			0.3	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Differential Line Input Impedance	RIN	90	100	110	Ohm	
Output Eye Mask		Compliant with IEEE 802.3Z				

Note (1): X = specified ITU center wavelength. (To See "Ordering Information")

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	-10			dBm	
Los Of Signal Assert	PA			-31	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 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	LV TTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

Note 1: A (TX) + B (RX) = 300mA (Not include termination circuit)

DWDM Wavelength Guide

ITU Channel Product Code	Frequency (THz)	Center Wavelength(nm)	ITU Channel Product Code	Frequency (THz)	Center Wavelength(nm)
17	191.7	1563.86	40	194.0	1545.32
18	191.8	1563.05	41	194.1	1544.53
19	191.9	1562.23	42	194.2	1543.73
20	192.0	1561.42	43	194.3	1542.94
21	192.1	1560.61	44	194.4	1542.14
22	192.2	1559.79	45	194.5	1541.35
23	192.3	1558.98	46	194.6	1540.56
24	192.4	1558.17	47	194.7	1539.77
25	192.5	1557.36	48	194.8	1538.98
26	192.6	1556.55	49	194.9	1538.19
27	192.7	1555.75	50	195.0	1537.40
28	192.8	1554.94	51	195.1	1536.61
29	192.9	1554.13	52	195.2	1535.82

DATASHEET 4.1

30	193.0	1553.33	53	195.3	1535.04
31	193.1	1552.52	54	195.4	1534.25
32	193.2	1551.72	55	195.5	1533.47
33	193.3	1550.92	56	195.6	1532.68
34	193.4	1550.12	57	195.7	1531.90
35	193.5	1549.32	58	195.8	1531.12
36	193.6	1548.51	59	195.9	1530.33
37	193.7	1547.72	60	196.0	1529.55
38	193.8	1546.92	61	196.1	1528.77
39	193.9	1546.12			