SV-SFPP-ZXDA8DT

10Gb/s Tunable DWDM SFP+ 80km Transceiver

Features

- Supports 9.95Gb/s to 11.3Gb/s bit rates
- Monolithically integrated full C-band tunable
- transmitter and APD receiver
- 50 GHz ITU channel spacing with integrated
- wavelength locker
- Maximum link length of 80km
- Metal enclosure, for lower EMI
- 2-wire interface with integrated Digital
- Diagnostic monitoring
- Hot-pluggable SFP+ footprint
- Specifications compliant with
- SFF-8472 V11.3& SFF-8690 V1.4
- Compliant with SFP+ MSA with LC connector
- Power dissipation <1.65W
- Case temperature range: -5°C to 70°C

Applications

- DWDM 10GBASE-ZR/ZW 10G Ethernet
- DWDM 80KM 10G Fiber Channel
- DWDM SONET OC-192&SDH STM-64

Ordering Information

Part no	Description
SV-SFPP-ZXDA8DT	Starview SFP+ module Multi-rate 9.95Gbps to 11.3Gbps supporting OC-192/ STM-64/ 10G LAN/ 10G FC and OC192 Tunable C-Band DWDM 50GHz spacing with Digital Diagnostic Monitoring (DDM), distance up to 80km

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	Ts	-40	-	85	°C
Relative Humidity	RH	5	-	85	%
Power Supply Voltage	VCC	-0.3	-	3.6	V
Signal Input Voltage		Vcc-0.3	-	Vcc+0.3	V

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	-5	-	70	°C	Without air flow
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		500	mA	
Data Rate	BR		10.3125		Gbps	
Transmission Distance	TD		-	80	km	
Coupled fiber			Single mode fiber			9/125um SMF

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
			Transmitter			
Average Optical Power	Pout	-1		3	dBm	1
Frequency stability (BOL)		f c –1.5		f c +1.5	GHz	2
Frequency stability (EOL)		f c –2.5		f c +2.5	GHz	2
Center Wavelength Spacing			50		GHz	3
Optical Extinction Ratio	ER	8.2			dB	
Side mode Suppression ratio	SMSR	35			dB	
Average Launch Power(Laser off)	Poff			-30	dBm	
Output Eye Mask			Compliant with IEEE 802.3ae			

Receiver					
Rx Sensitivity with dispersion 0 ps/nm	RSENS		-23	dBm	@9.95, 10.3,10.5Gbps，BER=10^-12
			-27		@10.709Gbps,BER=10^-4
			-27		@11.1Gbps, BER=10^-4
			-26.5		@11.3Gbps, BER=10^-4
Rx Sensitivity with dispersion –400 to +1450 ps/nm	RSENS		-21	dBm	@9.95, 10.3,10.5Gbps，BER=10^-12
			-25		@10.709Gbps, BER=10^-4
			-25		@11.1Gbps, BER=10^-4
			-24		@11.3Gbps, BER=10^-4
Input Saturation Power (Overload)	Psat	-6		dBm	
Wavelength Range	λ_C	1480	1580	nm	
LOS De-Assert	LOSD		-27	dBm	
LOS Assert	LOSA	-36		dBm	
LOS Hysteresis		0.5		dB	

Note(1):Output power is power coupled into a 9/125 mm single-mode fiber.

Note(2):f c refer to Page 2 the Frequency row of wavelength guide table，and test condition is reflect power to transmitter lower than -27dBm.

Note(3):Corresponds to approximately 0.4 nm.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			500	mA	
Transmitter						
Input differential impedance	ohm		100		Ω	1
Differential data input swing	Vin,pp	240		910	mV	
Transmit Disable Voltage	VD	Vcc–1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2
TX_FAULT Voltage-High		Vcc–1.3		Vcc	V	
TX_FAULT Voltage-Low		Vee		Vee+ 0.8	V	
Receiver						
Differential data output swing	Vout,pp	350		850	mV	3
Data output rise time	tr	30			ps	4
Data output fall time	tf	30			ps	4
LOS Fault	VLOS fault	Vcc–1.3		VccHOST	V	5
LOS Normal	VLOS norm	Vee		Vee+0.8	V	5

Note(1): Connected directly to TX data input pins. AC coupled thereafter.

Note(2): Or open circuit.

Note(3): Input 100 ohms differential termination.

Note(4): These are unfiltered 20-80% values

Note(5): Loss Of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

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
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