

# SV-SFPP-10GERD8C##

10Gbps, Single mode, 80km, with DDM Function



## Features

- Up to 11.1Gbps Data Links
- Up to 80km transmission on SMF
- Power dissipation < 1.5W
- CWDM EML Laser and APD receiver
- Metal enclosure, for lower EMI
- 2-wire interface with integrated
- Digital Diagnostic monitoring
- Hot-pluggable SFP+ footprint
- Specifications compliant with SFF 8472
- Compliant with SFP+ MSA with LC connector
- Single 3.3V power supply
- Case operating temperature range: 0°C to 70°C

## Applications

- 10GBASE-ZR/ZW & 10G Ethernet
- Compliant to 802.3ae 10GBASE-ZR/ZW
- Compliant to SFF-8431
- RoHS Compliant

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFPP-10GERD8C##</b>	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), 1G/10G LAN, 1/2/4/8/10G FC, OC-192/STM-64 CWDM SM (LC), distance up to 80km, where ## denotes 47=1470nm, 49=1490nm, 51=1510nm, 53=1530nm, 55=1550nm, 57=1570nm, 59=1590nm, 61=1610nm	0 to 4	-23 to -7	23	80	YES

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	Ts	-40	-	85	°C
Storage Ambient Humidity	HA	5	-	95	%
Operating Relative Humidity	RH	-	-	85	%
Power Supply Voltage	VCC	-0.3	-	4	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	0	-	70	°C	Without air flow
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		450	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
<b>Transmitter</b>						
Output Opt. Pwr	POUT	0		4	dBm	1
Optical Wavelength	$\lambda$	$\lambda-6.5$		$\lambda+6.5$	nm	2
Spectral Width (-20dB)	$\sigma$			1	nm	
Optical Extinction Ratio	ER	6			dB	
Transmitter and Dispersion Penalty	TDP			3	dB	
Side mode Supression ratio	SMSR	30			dB	
RIN	RIN			-128	dB/Hz	
Output Eye Mask						Compliant with IEEE 802.3ae
<b>Receiver</b>						
Receiver Sensitivity	Psen			-23	dBm	3
Input Saturation Power (Overload)	PSAT	-7			dBm	
Input Optical Wavelength	$\lambda$ IN	1270		1610	nm	
LOS -Assert Power	PA			-26	dBm	
LOS -Deassert Power	PD	-35			dBm	
LOS -Hysteresis	PHys	0.5			dB	

Note(1):Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.

Note(2): $\lambda$ "is:1270,1290,1310,1330,1350,1370,1390,1410,1430,1450,

Note(3):Measured with a PRBS 2<sup>31</sup>-1 test pattern, @10.325Gb/s, BER<10<sup>-12</sup>.

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			450	mA	
Transmitter						
Input differential impedance	Rin		100		$\Omega$	1
Differential data input swing	Vin,pp	180		1200	mV	
Transmit Disable Voltage	VD	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2
Transmit Disable Assert Time				10	us	
Receiver						
Differential data output swing	Vout,pp	300		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
Power Supply Rejection	PSR	100			mVpp	6

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.

Note(6): Receiver sensitivity is compliant with power supply sinusoidal modulation of 20 Hz to 1.5 MHz up to specified value applied through the recommended power supply filtering network.