

# SV-SFPP-8GLRD1

8.5Gbps, 1310nm, Singlemode, 10km, with DDM



## Features

- Supports 8.5Gbps bit rates
- Up to 10km transmission on SMF
- DFB Laser and PIN 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:  
 Standard: 0°C to +70°C  
 Industrial: -40°C to +85°C
- Power dissipation < 1.5 W

## Applications

- Multi-rate 8x / 4x / 2x Fiber Channel

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFPP-8GLRD1</b>	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), Fiber Channel 1G/ 2G/ 4G/ 8Gbps 1310nm SM (LC), distance up to 10km	-6 to -1	-15 to 0.5	9	10	YES
<b>SV-SFPP-8GLRD1H</b>	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), Fiber Channel 1G/ 2G/ 4G/ 8Gbps 1310nm SM (LC), distance up to 10km, Industrial temperature range	-6 to -1	-15 to 0.5	9	10	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 -40	-	70 85	°C	
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		350	mA	
Data Rate	BR		8.5		Gbps	
Transmission Distance	TD		-	10	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	-6		-1	dBm	1
Optical Wavelength	$\lambda$	1260	1310	1355	nm	
Spectral Width (-20dB)	$\sigma$			1	nm	
Optical Extinction Ratio	ER	3.5			dB	
Transmitter and Dispersion Peanlty	TDP			3.2	dB	
RIN	RIN			-128	dB/Hz	
Output Eye Mask			Compliant with FC-PI-4			
<b>Receiver</b>						
Rx Sensitivity	RSENS			-15	dBm	2
Input Saturation Power (Overload)	Psat	0.5			dBm	
Wavelength Range	$\lambda_c$	1270		1610	nm	
LOS De -Assert	LOSD			-18	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5	1.0		dB	

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

Note(2): Measured with a PRBS 231-1 test pattern, @8.5Gb/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			350	mA	
Transmitter						
Input differential impedance	Rin		100		$\Omega$	1
Single ended data input swing	Vin,pp	180		700	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	28			ps	4
Data output fall time	tf	28			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): Into 100 ohms differential termination.

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

Note(5): Loss Of Signal is LVTTTL. 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.