

**Features**

- Supports 8.5Gbps bit rates
- Up to 40km transmission on SMF
- EML transmitter 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: -5°C to +85°C
- Power dissipation < 1.5 W



**Applications**

- Multi-rate 8x / 4x / 2x Fiber Channel
- Compliance with Fiber Channel FC-PI-4 800-SM-LC-L
- Compliant with 8G, 4G and, 2G Fiber Channel
- RoHS Compliant.

**Absolute Maximum Ratings**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
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	
		-5		85		
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		450	mA	
Data Rate	BR		8.5		Gbps	
Transmission Distance	TD		-	40	km	
Coupled fiber	Single mode fiber					9/125um SMF

## Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Average Launched Power	PO	-1		+3	dBm	Note (1)
Extinction Ratio	ER	6			dB	
Center Wavelength	$\lambda_c$	1530	1550	1565	nm	
Spectrum Band Width (RMS)	$\sigma$			1.0	nm	
SMSR		30			dB	
Transmitter OFF Output Power	POff			-30	dBm	
Transmitter and Dispersion Penalty	TDP			3.0	dB	
Output Eye Mask	Compliant with FC-PI-4					
<b>Receiver</b>						
Input Optical Wavelength	$\lambda$	1270		1610	nm	
Receiver Sensitivity				-16	dBm	Note (2)
Input Saturation Power (Overload)	Psat	0.5			dBm	
LOS Detect -Assert Power	PA	-28			dBm	
LOS Detect - Deassert Power	PD			-19	dBm	
LOS Detect Hysteresis	PHYS	0.5			dB	

Note:

1. Launched power (avg.) is power coupled into a single mode fiber with master connector. (Before of Life)
2. Measured with conformance test signal for BER =  $10^{-12}$ .@8.5Gbps, PRBS=2<sup>31</sup>-1,NRZ

## Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	NOTE
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			450	mA	
<b>Transmitter</b>						

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	
<b>Receiver</b>						
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

**Notes:**

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Into 100 ohms differential termination.
4. 20 – 80 %.
5. Loss Of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

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.

## Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFPP-8GERD4</b>	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), Fiber Channel 1G/ 2G/ 4G/ 8Gbps 1550nm SM (LC), distance up to 40km	-1 to 3	-16 to 0.5	15	40	YES
<b>SV-SFPP-8GERD4H</b>	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), Fiber Channel 1G/ 2G/ 4G/ 8Gbps 1550nm SM (LC), distance up to 40km, Industrial temperature range	-1 to 3	-16 to 0.5	15	40	YES