

## Features

- Up to 11.1Gbps Data Links
- Maximum link length of 220M MMF
- Power dissipation < 1W
- 1300nm FP transmitter, PIN photo-detector
- 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



## Applications

- 10GBASE-LRM
- Compliant to SFP+ SFF-8431
- Compliant to 802.3ae 10GBASE-LRM.
- 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	
		-40		85		
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		300	mA	
Data Rate	BR		10.3125		Gbps	
Transmission Distance	TD		-	220	m	
Coupled fiber	Multi mode fiber					MMF

## Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	NOTE
<b>Transmitter</b>						
Average Launch Power	POUT	-6.5		0.5	dBm	1
Optical Wavelength	λ	1290	1300	1330	nm	
Optical Extinction Ratio	ER	3.5			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@10.3125G	Sen			-10	dBm	2
Input Saturation Power (Overload)	Psat	1.5			dBm	
Wavelength Range	$\lambda$ C	1260		1350	nm	
LOS De -Assert	LOSD			-14	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5			dB	

**Notes:**

1. Average power figures are informative only, per IEEE802.3aq
2. Conditions of stressed receiver tests per IEEE802.3aq.

**Electrical Characteristics**

Parameter	Symbol	Min	Typ	Max	Unit	NOTE
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			300	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	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

**Notes:**

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

**Ordering Information**

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-SFPP-10GESRD</b>	Starview SFP+ module 1G/10G LAN, OC-192/STM-64 1300nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 220m	-6.5 to 0.5	-10 to 1.5	0.5	0.22	YES
<b>SV-SFPP-10GESRDH</b>	Starview SFP+ module 1G/10G LAN, OC-192/STM-64 1300nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 220m, Industrial temperature range	-6.5 to 0.5	-10 to 1.5	0.5	0.22	YES