

SV-SFPP-10GLRD1

10Gbps, 1310nm, Single mode, 10km, with DDM



Features

- Up to 11.1Gbps Data Links
- 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

- 10GBASE-LR/LW & 10G Ethernet
- Compliant to SFF-8431
- Compliant to SFF 8472
- RoHS Compliant.

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-10GLRD1	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), 1G/10G LAN, 1/2/4/8/10G FC, OC-192/STM-64 1310nm SM (LC), distance up to 10km	-6 to -1	-14.4 to 0.5	8.4	10	YES
SV-SFPP-10GLRD1H	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), 1G/10G LAN, 1/2/4/8/10G FC, OC-192/STM-64 1310nm SM (LC), distance up to 10km	-6 to -1	-14.4 to 0.5	8.4	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	-	270	350	mA	
Data Rate	BR		10.3125		Gbps	
Transmission Distance	TD		-	10	km	
Coupled fiber			Single mode fiber			9/125um SMF

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Output Opt. Pwr	POUT	-6		-1	dBm	1
Optical Wavelength	λ	1260	1310	1355	nm	
Spectral Width (-20dB)	σ			1	nm	
Optical Extinction Ratio	ER	3.5			dB	
Transmitter and Dispersion Penalty	TDP			3.2	dB	
RIN	RIN			-128	dB/Hz	
Output Eye Mask		Compliant with IEEE 802.3ae				
Receiver						
Rx Sensitivity	RSNS			-14.4	dBm	2
Input Saturation Power (Overload)	Psat	0.5			dBm	
Wavelength Range	λ_c	1270		1610	nm	
LOS De -Assert	LOSD			-17	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 $2^{31}-1$ test pattern, @10.325Gb/s, BER< 10^{-12}

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		Ω	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 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.