

SV-SFPP-10GLRD2x

10Gbps, 1270nmTX/1330nmRX(1330nmTX/1270nmRX)20km, with DDM



Features

- Up to 11.1Gbps Data Links
- Up to 20km transmission on SMF
- Power dissipation < 1.5W
- 1270nm DFB laser and PIN receiver for SV-SFPP-10GLRD21
- 1330nm DFB laser and PIN receiver for SV-SFPP-10GLRD22
- 2-wire interface with integrated Digital Diagnostic monitoring
- EEPROM with Serial ID Functionality
- Hot-pluggable SFP+ footprint
- Compliant with SFP+ MSA with LC connector
- Single + 3.3V Power Supply
- Case operating temperature: 0°C ~+70°C

Applications

- 10GBASE-BX
- Compliant with SFF-8472
- Compliant to SFF-8431
- Compliant to 802.3ae 10GBASE-LR/LW
- RoHS Compliant

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-10GLRD21	Starview Single Fiber Bi-Directional SFP+ module with Digital Diagnostic Monitoring (DDM), 1G/10G LAN, 1/2/4/8/10G FC, OC-192/STM-64, 1270nm TX/ 1330nm RX single fiber SM (LC), distance up to 20km	-6 to -0.5	-15 to 0.5	9	20	YES
SV-SFPP-10GLRD22	Starview Single Fiber Bi-Directional SFP+ module with Digital Diagnostic Monitoring (DDM), 1G/10G LAN, 1/2/4/8/10G FC, OC-192/STM-64, 1330nm TX/ 1270nm RX single fiber SM (LC), distance up to 20km	-6 to -0.5	-15 to 0.5	9	20	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	-		350	mA	
Data Rate	BR		10.3125		Gbps	
Transmission Distance	TD		-	20	km	
Coupled fiber			Single mode fiber			9/125um SMF

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Average Launched Power	PO	-6	-	-0.5	dBm	
Average Launched Power(Laser Off)	Poff	-	-	-30	dBm	Note (1)
Center Wavelength Range	λ_C	1260	1270	1280	nm	SV-SFPP-10GLRD21
		1320	1330	1340	nm	SV-SFPP-10GLRD22
Side mode suppression ratio	SMSR	30	-	-	dB	
Spectrum Bandwidth(-20dB)	σ	-	-	1	nm	
Extinction Ratio	ER	3.5		-	dB	Note (2)
Output Eye Mask		Compliant with IEEE 802.3ae				Note (2)
Receiver						
Input Optical Wavelength	λ_{IN}	1320	1330	1340	nm	SV-SFPP-10GLRD21
		1260	1270	1280	nm	SV-SFPP-10GLRD22
Receiver Sensitivity	Psen	-	-	-15	dBm	Note (3)
Input Saturation Power (Overload)	PSAT	0.5	-	-	dBm	Note (3)
Los Of Signal Assert	PA	-30	-	-	dBm	
Los Of Signal De-assert	PD	-	-	-17	dBm	
LOS -Hysteresis	PHys	0.5	-	5	dB	

Note(1): The optical power is launched into SMF

Note(2): Measured with RPBS 2^31-1 test pattern @10.3125Gbs

Note(3): Measured with RPBS 2^31-1 test pattern @10.3125Gbs BER=<10^-12

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Total power supply current	I _{cc}	-		350	mA	
Transmitter						
Differential Data Input Voltage	V _{DI}	180	-	700	mVp-p	
Differential line input Impedance	R _{IN}	85	100	115	Ohm	
Transmitter Fault Output-High	V _{FaultH}	2.4	-	V _{cc}	V	
Transmitter Fault Output-Low	V _{FaultL}	-0.3	-	0.8	V	
Transmitter Disable Voltage- High	V _{DisH}	2	-	V _{cc} +0.3	V	
Transmitter Disable Voltage- low	V _{DisL}	-0.3	-	0.8	V	
Receiver						
Differential Data Output Voltage	V _{DO}	300	-	850	mVp-p	
Differential line Output Impedance	R _{OUT}	80	100	120	Ohm	
Receiver LOS Pull up Resistor	R _{LOS}	4.7	-	10	KOhm	
Data Output Rise/Fall time	t _r /t _f		-	38	ps	
LOS Output Voltage-High	V _{LOSH}	2	-	V _{cc}	V	
LOS Output Voltage-Low	V _{LOSL}	-0.3	-	0.4	V	