

SV-SFPP-8GERD4C##

8.5Gbps, Single mode, 40km, with DDM Function



Features

- Supports 8.5Gbps bit rates
- Up to 40km transmission on SMF
- Power dissipation < 1.5W
- Uncooled CWDM 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: 0°C to 70°C

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

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-8GERD4C##	Starview SFP+ module with Digital Diagnostic Monitoring (DDM), Fiber Channel 1G/ 2G/ 4G/ 8Gbps CWDM SM (LC), distance up to 40km. where ## denotes 27=1270nm, 29=1290nm, 31=1310nm, 33=1330nm, 35=1350nm, 37=1370nm, 39=1390nm, 41=1410nm, 43=1430nm, 45=1450nm	0 to 5	-16 to 0.5	16	40	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	-		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
Transmitter						
Output Opt. Pwr	POUT	0		5	dBm	1
Optical Wavelength	λ	$\lambda-6.5$		$\lambda+6.5$	nm	2
Spectral Width (-20dB)	σ			1	nm	
Optical Extinction Ratio	ER	3.5			dB	
Transmitter and Dispersion Penalty	TDP			3	dB	
Side mode Supression ratio	SMSR	30			dB	
RIN	RIN			-128	dB/Hz	
Output Eye Mask			Compliant with FC-PI-4			
Receiver						
Receiver Sensitivity	Psen			-16	dBm	3
Input Saturation Power (Overload)	PSAT	0.5			dBm	
Input Optical Wavelength	λ IN	1270		1610	nm	
LOS -Assert Power	PA			-17	dBm	
LOS -Deassert Power	PD	-30			dBm	
LOS -Hysteresis	PHys	0.5			dB	

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

Note(2): λ "is:1270,1290,1310,1330,1350,1370,1390,1410,1430,1450,

Note(3): Measured with a PRBS 2³¹-1 test pattern, @8.5Gb/s, BER<10⁻¹².

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	V _{cc}	3.14	3.3	3.46	V	
Supply Current	I _{cc}			450	mA	
Transmitter						
Input differential impedance	R _{in}		100		Ω	1
Differential data input swing	V _{in,pp}	180		1200	mV	
Transmit Disable Voltage	VD	V _{cc} -1.3		V _{cc}	V	
Transmit Enable Voltage	VEN	V _{ee}		V _{ee} + 0.8	V	2
Transmit Disable Assert Time				10	us	
Receiver						
Differential data output swing	V _{out,pp}	300		850	mV	3
Data output rise time	t _r	30			ps	4
Data output fall time	t _f	30			ps	4
LOS Fault	VLOS fault	V _{cc} -1.3		V _{cc} HOST	V	5
LOS Normal	VLOS norm	V _{ee}		V _{ee} +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): Input 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.