SV-SFPP-6GLRD4H

Multi-rate 1.25Gbps to 6.25Gbps supporting CPRI and OBSAI Fiber Optic 1550nm SM, with DDM ,up to 40km

Features

- 10Gb/s serial optical interface compliant to 802.3ae 10GBASE-ER/EW
- Electrical interface compliant to SFF-8431 specifications
- 1550nm cooled EML transmitter with TEC, PIN photo-detector
- 2-wire interface for management specifications compliant with SFF 8472 Standard
- Operating case temperature: 0 to 70 °C
- All-metal housing for superior EMI performance
- Low power consumption, less than 1.5w
- Advanced firmware allow customer system encryption information to be stored in transceiver
- cost effective SFP+ solution, enables higher port densities and greater bandwidth
- RoHS compliant

Applications

- 10GBASE-ER/EW
- 10GBASE-ER/EW + FEC
- 10G Storage system

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-6GLRD4H	Starview SFP module Multi-rate 1.25Gbps to 6.25Gbps supporting CPRI and OBSAI Fiber Optic 1550nm SM (LC) with Digital Diagnostic Monitoring (DDM), Industrial temperature range, distance up to 40km	-3 to 3	-14.1 to -1	11.1	40	NO

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	V_{CC}	0	3.6	V	
Storage Temperature	Tc	-40	85	°C	
Operating Case Temperature	Tc	0	70	°C	
Relative Humidity	RH	5	95	%	
RX Input Average Power	Pmax	-	0	dBm	

Recommended Operating Environment

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	V_{CC}	3.135	3.3	3.465	V
Power Supply Current	Icc	-	350	450	mA
Operating Case Temperature	T_C	0	25	70	°C

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Data Rate		-	10.3125	11.3	Gbps	
Power Consumption		-	1200	1500	mW	
Transmitter						
Single Ended Output Voltage Tolerance		-0.3	-	4	V	
C common mode voltage tolerance		15	-	-	mV	
Tx Input Diff Voltage	VI	180		700	mV	
Tx Fault	VoL	-0.3		0.4	V	
	Voh	2.0		Vcc+0.3	V	
Tx Disable	VoL	Vee		Vee+0.8	V	
	Voh	2		Vcc	V	
Data Dependent Input Jitter	DDJ			0.1	UI	
Data Input Total Jitter	TJ			0.28	UI	
Receiver						
Single Ended Output Voltage Tolerance		-0.3	-	4	V	
Rx Output Diff Voltage	Vo	300		850	mV	
Rx Output Rise and Fall Time	Tr/Tf	30			ps	20% to 80%
Total Jitter	TJ			0.7	UI	
Deterministic Jitter	DJ			0.42	UI	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Reach				40	km	
Transmitter						
Center wavelength	λ	1530		1565	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Optical spectrum width(-20dB)				1	nm	
Launched power	Po	-3		3	dBm	
Launched power in OMA		-2.1			dBm	
Transmitter and dispersion penalty	DP			2	dB	4
Average launch power of OFF transmitter	Poff			-30	dBm	
Extinction ratio	ER	6			dB	
RIN	RIN			-128	dB/Hz	
Optical Return Loss Tolerance	RL	21			dB	
Receiver						
Center wavelength	λ	1250	-	1600	nm	
Receiver Overload		-1			dBm	
Receiver Sensitivity	RSEN			-15.8	dBm	1
Receiver sensitivity in OMA				-14.1	dBm	2
Receiver Reflectance	Rf			-26	dB	
Stressed receiver sensitivity in OMA				-11.3	dBm	
Vertical eye closure penalty				2.7	dB	3
LOS Assert	LOSA	-30			dBm	
LOS De-assert	LOSD			-16	dBm	
LOS Hysteresis		0.5			dB	
Stressed eye jitter		0.3			UI	2
Receive electrical 3dB upper cutoff frequency				12.3	GHz	
Receiver power (damage)				5	dBm	

Note(1): Average optical power shall be measured using the methods specified in TIA/EIA-455-95.

Note(2): Receiver sensitivity is informative. Stressed receiver sensitivity shall be measured with conformance test signal for BER =1x $10^{-12.}$

Note(3): Vertical eye closure penalty and stressed eye jitter are the test conditions for measuring stressed receiver sensitivity. They are not the required characteristic of the receiver.

Note(4):Path penalty is intended as the power penalty of the interface between back-to-back and the maximum applied dispersion.

Digital Diagnostic Functions

Parameter	Symbol	Min.	Max	Unit	Note
Temperature monitor absolute error	DMI_Temp	-3	3	degC	Over operating temp
Laser power monitor absolute error	DMI_TX	-3	3	dB	
RX power monitor absolute error	DMI_RX	-3	3	dB	-1dBm to -15dBm range
Supply voltage monitor absolute error	DMI_VCC	-0.1	0.1	V	Full operating range
Bias current monitor	DMI_Ibias	-10%	10%	mA	