SV-SFPP-16GERD4C##

16Gbps CWDM Single mode, 40km, with DDM Function

Features

- Operating data rate up to 14.025Gbps
- 8-Wavelengths CWDM EML Transmitter from 1470nm to 1610nm, with step 20nm
- 14dB Power Budget
- Single 3.3V Power supply and TTL Logic Interface
- Duplex LC Connector Interface
- Hot Pluggable
- Power Dissipation < 1.8W
- Compliant with SFF-8431 MSA
- Compliant with SFF-8432 MSA
- Compliant with SFF-8472 MSA
- Compliant with 8G and 4G Fibre Channel
- Operating Case Temperature Standard: 0℃~+70℃

Applications

- Multi-rate 16x / 8x / 4x Fibre Channel
- Other optical links

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-16GERD4C##	Starview SFP+ Fiber Channel 4G/ 8G/ 16Gbps module SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 40km. where ## denotes 47=1470nm 49=1490nm, 51=1510nm, 53=1530nm, 55=1550nm, 57=1570nm, 59=1590nm, 61=1610nm	-0.0 to 4.0	-26.0 to -4.0	26.0	40	YES

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
Supply Voltage	VCC	-0.5	3.6	V
Input Voltage	Vin	-0.5	Vcc	V

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	T_C	0		+70	°C
Power Supply Voltage	VCC	3.15	3.3	3.45	V
Power Supply Current	ICC		430	545	mA
Surge Current	ISurge			+30	mA
Baud Rate		4.25	14.025		Gbps

Performance Specifications – Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
CML Inputs(Differential)	Vin	250		1000	mVpp	AC coupled inputs
Input Impedance (Differential)	Zin	85	100	115	ohm	Rin > 100 kohms @ DC
Differential Input S-parameter	$S_{DD}11$	-	-	-10	dB	
Differential to Common Mode Conversion	$S_{CD}11$	-	-	-10	dB	
Tx_DISABLE Input Voltage – High		2		3.45	V	
Tx_DISABLE Input Voltage – Low		0		0.8	V	
Tx_FAULT Output Voltage – High		2		Vcc+0.3	V	Io = 400µA; Host Vcc
Tx_FAULT Output Voltage – Low		0		0.5	V	Io = -4.0mA
Receiver						
CML Outputs (Differential)	Vout	350		700	mVpp	AC coupled outputs
Output AC Common Mode Voltage		0		15	mV	RMS
Output Impedance (Differential)	Zout	85	100	115	ohm	
Differential Output S-parameter	S_D22	-	-	-10	dB	

Rx_LOS Output Voltage – High		2	Vcc+0.3	V	Io = 400μA; Host Vcc
Rx_LOS Output Voltage – Low		0	0.8	V	Io = -4.0mA
MOD_DEF (0:2)	VoH	2.5		V	With Serial ID
	VoL	0	0.5	V	

Performance Specifications – Optical

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Budget			14		dB
Data Rate		4.25	14.025		Gbps
Transmitter					
Optical Wavelength*Note3	λC	λc–6	λc	λc+7.5	nm
-20dB Spectrum Width	Δλ			1	nm
Side Mode Suppression Ratio	SMSR	30			dB
Average Output Power*Note4	Pout	0		+4	dBm
Extinction Ratio	ER	8.2			dB
Average Power of OFF Transmitter	Poff			-30	dBm
Transmitter Dispersion Penalty	TDP			2.5	dB
TX Disable Assert Time	t_off	-	-	10	us
TX_DISABLE Negate Time	t_on	-	-	1	ms
TX_BISABLE time to start reset	t_reset	10	-	-	us
Time to initialize, include reset of TX_FAULT	t_init	-	-	300	ms
TX_FAULT from fault to assertion	t_fault	-	-	100	us
Total Jitter	TJ	-	-	0.28	UI(p-p)
Data Dependant Jitter	DDJ	-	-	0.1	UI(p-p)
Uncorrelated Jitter	UJ	-	-	0.023	RMS
Receiver					
Centre Wavelength	λ	1260		1620	nm
Sensitivity*Note5	Pmin			-14	dBm
Receiver Overload	Pmax	0			dBm
Optical Return Loss	ORL			-12	dB
LOS De-Assert	LOSD			-16	dBm
LOS Assert	LOSA	-26			dBm
LOS High		2.0		VCC+0.3	V
LOS Low		0		0.8	V

Note3: ITU-T G.694.2 CWDM wavelength from 1470nm to 1610nm, each step 20nm.

Note4: Output is coupled into a 9/125um SMF.

Note5: Minimum average optical power measured at the BER less than 1E-12, back to back. The measure pattern is PRBS 231-1.