

SV-SFPP-16GSRD



16G FC 16G/8G/4G Fibre Channel Optical Transceiver, 850nm, MM, 100km, with DDM

Features

- Operating data rate up to 14.025Gb/s
- 850nm VCSEL laser Transmitter
- Distance up to 100m @ OM3 MMF
- Single 3.3V Power supply and TTL Logic Interface
- Duplex LC Connector Interface, Hot Pluggable
- Built-in dual CDR
- Compliant with MSA SFP+ Specification SFF-8431
- Power Dissipation < 1.0W
- Operating Case Temperature Standard: 0°C~+70°C
- Safety Certification: TUV/UL/FDA

Applications

- Tri-Rate 4.25/8.5/14.025 Gb/s Fibre Channel
- Other Optical Link

Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
SV-SFPP-16GSRD	Starview SFP+ Fiber Channel 4G/ 8/ 16Gbps module 850nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 100m.	-7.8 to 0	-10.5 to 0	2.7	0.10	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
Output Current	Io	-	50	mA

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	0		70	°C
Power Supply Voltage	VCC	3.15	3.3	3.45	V
Power Supply Current	ICC			300	mA
Surge Current	ISurge			+30	mA
Baud Rate			14.025		Gbps

Performance Specifications – Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
CML Inputs(Differential)	Vin	150		1200	mVpp	AC coupled inputs
Input Impedance (Differential)	Zin	90	100	110	ohms	Rin > 100 kohms @ DC
Tx_DISABLE Input Voltage – High		2		Vcc+0.3	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		0.8	V	Io = -4.0Ma
Receiver						
CML Outputs(Differential)	Vout	350		700	mVpp	AC coupled outputs
Output Impedance (Differential)	Zout	90	100	110	ohms	
Rx_LOS Output Voltage – High		2.4		Vcc+0.3	V	Io = 400µA; Host Vcc

Rx_LOS Output Voltage – Low		0	0.4	V	Io = -4.0Ma
MOD_DEF (2:0)	VoH	2.5		V	With Serial ID
	VoL	0	0.5	V	

Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
OM3 MMF			100		m
Data Rate			14.025		Gbps
Transmitter					
Centre Wavelength	λ_C	840	850	860	nm
Spectral Width (RMS)	$\Delta\lambda$			0.59	nm
Average Output Power	Pout	-7.8			dBm
Extinction Ratio	ER	3.0	5.0		dB
Transmitter Dispersion Penalty	TDP			4.3	dB
Input Differential Impedance	ZIN	90	100	110	Ω
TX Disable	Disable		2.0	Vcc+0.3	V
	Enable		0	0.8	
TX_Fault	Fault		2.4	VCC+0.3	V
	Normal		0	0.4	
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
Receiver					
Centre Wavelength	λ_C	840	850	860	nm
Receiver Sensitivity @14.025G*Note3	Pmin			-10.5	dBm
Receiver Sensitivity @8.5G*Note4	Pmin			-11	dBm
Receiver Sensitivity @4.25G*Note5	Pmin			-12	dBm
Output Differential Impedance	RIN	90	100	110	Ω
Receiver Overload*Note3	Pmax	0			dBm
Optical Return Loss	ORL			-12	Db
LOS De-Assert	LOSD			-12.5	dBm
LOS Assert	LOSA	-25			dBm
LOS Hysteresis		0.5			Db
LOS	High		2.4	VCC+0.3	V
	Low		0	0.4	

Note 3: Measured with a PRBS 2³¹-1 test pattern @ 14.025Gbps, BER≤10⁻¹²

Note 4: Measured with a PRBS $2^7 - 1$ test pattern @ 8.5Gbps,
BER $\leq 10^{-12}$

Note 5: Measured with a PRBS $2^7 - 1$ test pattern @ 4.25Gbps, BER $\leq 10^{-12}$