

SV-QSFP-40G-SR2

40GBase aggregating 2 x 850nm - 900nm MM (LC) distance up to 100m on 50/125um OM3 MM fiber, 150m on 50/125um MM OM4 MM fiber



Features

- Compliant to the 40GbE XLPI electrical specification per IEEE 802.3ba-2010
- Compliant to QSFP+ SFF-8436 Specification
- Aggregate bandwidth of > 40Gbps
- Operates at 10.3125 Gbps per electrical channel with 64b/66b encoded data
- QSFP MSA compliant
- Capable of over 100m transmission on OM3 Multimode Fiber (MMF) and 150m on OM4 MMF
- Single +3.3V power supply operating
- Built-in digital diagnostic functions
- Temperature range 0°C to 70°C
- RoHS Compliant Part
- Utilizes a standard LC duplex fiber cable allowing reuse of existing cable infrastructure

Applications

- 40 Gigabit Ethernet interconnects
- Datacom/Telecom switch & router connections
- Data aggregation and backplane applications
- Proprietary protocol and density applications

Ordering Information

Part number	Description
SV-QSFP-40G-SR2	Starview QSFP+ Bi-Directional Fiber module supporting 40GBase aggregating 2 x 850nm - 900nm MM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 100m on 50/125um OM3 MM fiber, 150m on 50/125um MM OM4 MM fiber

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit
Storage Temperature	T _s	-40		+85	°C
Supply Voltage	V _{ccT, R}	-0.5		4	V
Relative Humidity	RH	0		85	%

Recommended Operating Environment

Parameter	Symbol	Min.	Typical	Max.	Unit
Case operating Temperature	T _c	0		+70	°C
Supply Voltage	V _{ccT, R}	+3.13	3.3	+3.47	V
Supply Current	I _{cc}			1000	mA
Power Dissipation	PD			3.5	W

Electrical Characteristics (T_{OP} = 0 to 70 °C, V_{CC} = 3.13 to 3.47 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Note
Data Rate per Channel		-	10.3125	11.2	Gbps	
Power Consumption		-	2.5	3.5	W	
Supply Current	I _{cc}		0.75	1.0	A	
Control I/O Voltage-High	V _{IH}	2.0		V _{cc}	V	
Control I/O Voltage-Low	V _{IL}	0		0.7	V	
Inter-Channel Skew	TSK			150	Ps	
RESETL Duration			10		Us	
RESETL De-assert time				100	ms	
Power On Time				100	ms	
Transmitter						
Single Ended Output Voltage Tolerance		0.3		4	V	20~80%
Common mode Voltage Tolerance		15			mV	
Transmit Input Diff Voltage	V _I	120		1200	mV	
Transmit Input Diff Impedance	Z _{IN}	80	100	120		
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	600	800	mV	
Rx Output Rise and Fall Voltage	Tr/Tf		35	ps	20~80%
Total Jitter	TJ		0.7	UI	
Deterministic Jitter	DJ		0.42	UI	

Optical Parameters(TOP = 0 to 70 °C, VCC = 3.0 to 3.6 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Optical Wavelength CH1	λ	832	850	868	nm	
Optical Wavelength CH2	λ	882	900	918	nm	
RMS Spectral Width	Pm		0.5	0.65	nm	
Average Optical Power per Channel	Pavg	-4	-2.5	+5.0	dBm	
Laser Off Power Per Channel	Poff			-30	dBm	
Optical Extinction Ratio	ER	3.5			dB	
Relative Intensity Noise	Rin			-128	dB/HZ	1
Optical Return Loss Tolerance				12	dB	
Receiver						
Optical Center Wavelength CH1	λ	882	900	918	nm	
Optical Center Wavelength CH2	λ	832	850	868	nm	
Receiver Sensitivity per Channel	R		-11		dBm	
Maximum Input Power	P _{MAX}	+0.5			dBm	
Receiver Reflectance	R _{RX}			-12	dB	
LOS De-Assert	LOS _D			-14	dBm	
LOS Assert	LOS _A	-30			dBm	
LOS Hysteresis	LOS _H	0.5			dB	

Note

1. 12dB Reflection