

SV-QSFP-40G-ZR4

40GBase aggregating 4 x duplex LWDM (1295/ 1300/ 1304/ 1309nm) wavelengths SM (LC) with DDM, distance up to 80km, supporting 40GE, Infiniband QDR.



Features

- Up to 11.3Gb/s data rate per channel
- Supports 44.6Gb/s aggregate bit rate
- Transmitter: cooled 4x10Gb/s LAN WDM EML TOSA (1295.56, 1300.05, 1304.58, 1309.14nm)
- Receiver: 4x10Gb/s PIN receiver with SOA
- Up to 80km reach for G.652 SMF
- Duplex LC optical receptacle
- 4x10G electrical interface (OIF CEI-28G-VSR)
- RoHS-10 compliant and lead-free
- Single +3.3V power supply
- Maximum power consumption 4.5W
- Case operating temperature Commercial: 0 ~ +70 °C
- Extended: -10 ~ +80 °C
- Industrial: -40 ~ +85 °C

Applications

- 40G Ethernet
- Data Center
- InfiniBand QDR

Part number	Description
SV-QSFP-40G-ZR4	Starview QSFP+ 40Gbps module 40GBase aggregating 4 x duplex LWDM (1295/ 1300/ 1304/ 1309nm) wavelengths SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 80km, supporting 40GE, Infiniband QDR.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	TS	-40	85	°C	
Power Supply Voltage	VCC	-0.3	4.0	V	
Relative Humidity (non-condensation)	RH	0	85	%	
Damage Threshold	THd	-3.0		dBm	

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Operating Case Temperature	TOP	0		70	°C	commercial
		-40		85	°C	Industrial
Power Supply Voltage	VCC	3.135	3.3	3.46	V	
Data Rate, each Lane			10.3125		Gb/s	
Control Input Voltage High		2		Vcc	V	
Control Input Voltage Low		0		0.8	V	
Link Distance (SMF)	D			80	km	1

Notes:

1. Depending on actual fiber loss/km (link distance specified is for fiber insertion loss of 0.35dB/km)

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Power Consumption	p			4.5	W	
Supply Current	Icc			1360	mA	
Transmitter (each Lane)						
Overload Differential Voltage pk-pk	TP1a	900			mV	
Common Mode Voltage (Vcm)	TP1	-350		2850	mV	1
Differential Termination Resistance Mismatch	TP1			10	%	At 1MHz
Receiver						

Differential Voltage, pk-pk	TP4		900	mV	
Common Mode Voltage (Vcm)	TP4	-350	2850	mV	1
Common Mode Noise, RMS	TP4		10	%	At 1MHz
Common Mode Return Loss (SCC22)	TP4		-2	dB	2
Transition Time, 20 to 80%	TP4	9.5		ps	
Vertical Eye Closure (VEC)	TP4		5.5	dB	
Eye Width at 10-15 probability (EW15)	TP4	0.57		UI	
Eye Height at 10-15 probability (EH15)	TP4	228		mV	

Environment unless otherwise specified.

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
Transmitter						
Lane wavelength (range)	L0	1294.53	1295.56	1296.59	nm	
	L1	1299.02	1300.05	1301.09	nm	
	L2	1303.54	1304.58	1305.63	nm	
	L3	1308.09	1309.14	1310.09	nm	
Signaling rate, each lane			10.3125		Gb/s	
Side-mode suppression ratio	SMSR	30				
Total launch power	PT			12	dBm	
Average launch power, each lane	Pavg	1		6	dBm	1
OMA, each Lane	POMA	1		6	dBm	2
Extinction Ratio	ER	8.2			dB	
Difference in Launch Power between any Two Lanes (OMA)	Ptx,diff			3.6	dB	
Transmitter and Dispersion Penalty, each lane	TDP			3.2	dB	

Receiver

1. The minimum average launch power spec is based on ER not exceeding 9.5dB and transmitter OMA higher than 0.1dBm.
2. Even if the TDP < 0.75 dB, the OMA min must exceed the minimum value specified here.
3. Measured with a PRBS=2³¹ -1 test pattern @40Gbps, ER=8.2dB, BER≤1E-12.