

QSFP-100GBASE-SR4-E-OPC

MSA and TAA 100GBase-SR4 QSFP28 Transceiver (MMF, 850nm, 100m, MPO, DOM, -20 to 85C)

Features

- SFF-8665 Compliance
- MPO Connector
- Multi-mode Fiber
- Extended Temperature -20 to 85 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 100GBase Ethernet
- Access and Enterprise

Product Description

This MSA compliant QSFP28 transceiver provides 100GBase-SR4 throughput up to 100m over OM4 multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. It can operate at temperatures between -20 and 85C. All of our transceivers are built to comply with Multi-Source Agreement (MSA) standards and are uniquely serialized and tested for data-traffic and application to ensure seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V _{CC}	-0.5		4.0	V
Storage Temperature	T _s	-40		85	°C
Case Operating Temperature	T _c	-25		85	°C
Relative Humidity	RH	5		95	%
Data Rate Per Channel			25.78125		Gb/s

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	V _{CC}	3.135	3.3	3.465	V	
Module Supply Current	I _{CC}			750	mA	
Power Dissipation	P _D			2.5	W	
Transmitter						
Input Differential Impedance	Z _{IN}		100		Ω	
Differential Data Input Swing	V _{IN, P-P}	180		900	mV _{P-P}	
Receiver						
Output Differential Impedance	Z _O		100		Ω	
Differential Data Output Swing	V _{OUT, P-P}	300		850	mV _{P-P}	1
Transition Time (20% to 80%)	T _r , T _f	12			ps	

Notes:

1. Internally AC coupled, but requires an external 100Ω differential load termination.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	P _o	-8.4		+2.4	dBm	1
Center Wavelength Range	λ _c	840	850	860	nm	
Extinction Ratio	EX	2			dB	2
Spectral width (RMS)	Δλ			0.6	nm	
Transmitter and Dispersion Penalty	TDP			4.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram	IEEE Std 802.3bm compatible					
Receiver						
Center Wavelength	λ _c	840	850	860	nm	
Average Receiver Sensitivity (P _{avg})	S			-11	dBm	3
Average Receiver Sensitivity (P _{avg})	S			-7.5	dBm	4
Receiver Overload (P _{avg})	P _{OL}	2.5			dBm	
Damage Threshold	P _{OL}	3.4			dBm	
Optical Reflectance	ORL			-12	dB	
LOS De-Assert	LOS _D			-11.5	dBm	
LOS Assert	LOS _A	-30			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS 2³¹-1 test pattern @25.78125Gbps.
3. Measured with PRBS 2³¹-1 test pattern, 25.78125Gb/s, BER<5E⁻⁵.
4. Measured with PRBS 2³¹-1 test pattern, 25.78125Gb/s, BER<10⁻¹².

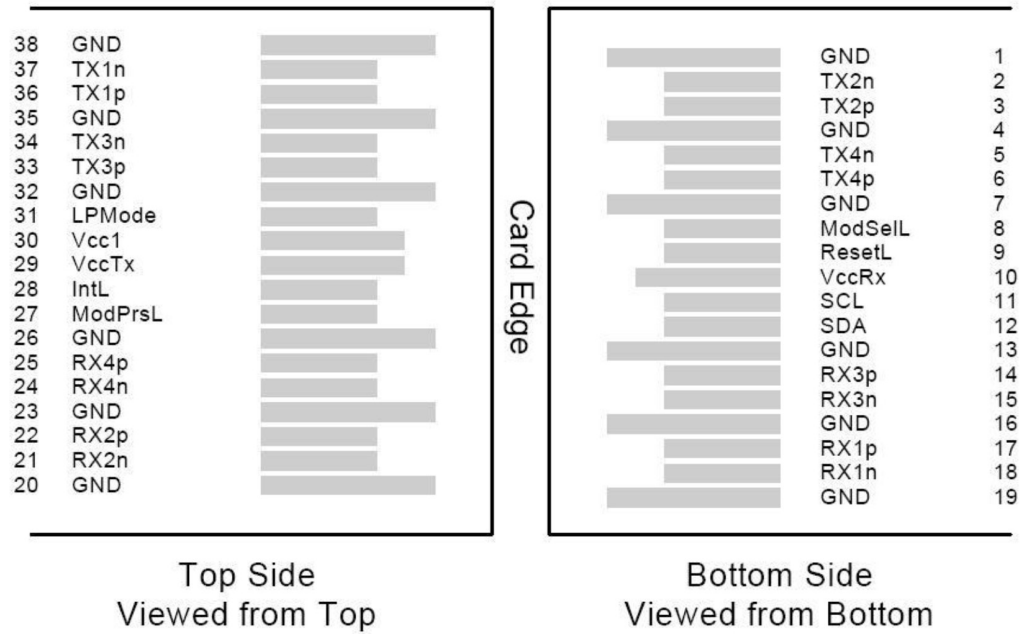
Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Ref.
1		GND	Module Ground	1
2	CML-I	Tx2-	Transmitter inverted data input	
3	CML-I	Tx2+	Transmitter non-inverted data input	
4		GND	Module Ground	1
5	CML-I	Tx4-	Transmitter inverted data input	
6	CML-I	Tx4+	Transmitter non-inverted data input	
7		GND	Module Ground	1
8	LVTTL-I	MODSEIL	Module Select	2
9	LVTTL-I	ResetL	Module Reset	2
10		VCCR _x	+3.3v Receiver Power Supply	
11	LVC _{MOS} -I	SCL	2-wire Serial interface clock	2
12	LVC _{MOS} -I/O	SDA	2-wire Serial interface data	2
13		GND	Module Ground	1
14	CML-O	RX3+	Receiver non-inverted data output	
15	CML-O	RX3-	Receiver inverted data output	
16		GND	Module Ground	1
17	CML-O	RX1+	Receiver non-inverted data output	
18	CML-O	RX1-	Receiver inverted data output	
19		GND	Module Ground	1
20		GND	Module Ground	1
21	CML-O	RX2-	Receiver inverted data output	
22	CML-O	RX2+	Receiver non-inverted data output	
23		GND	Module Ground	1
24	CML-O	RX4-	Receiver inverted data output	
25	CML-O	RX4+	Receiver non-inverted data output	
26		GND	Module Ground	1
27	LVTTL-O	ModPrsL	Module Present, internal pulled down to GND	
28	LVTTL-O	IntL	Interrupt output should be pulled up on host board	2
29		VCCT _x	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPM _{Mode}	Low Power Mode	2
32		GND	Module Ground	1
33	CML-I	Tx3+	Transmitter non-inverted data input	
34	CML-I	Tx3-	Transmitter inverted data input	
35		GND	Module Ground	1
36	CML-I	Tx1+	Transmitter non-inverted data input	
37	CML-I	Tx1-	Transmitter inverted data input	
38		GND	Module Ground	1

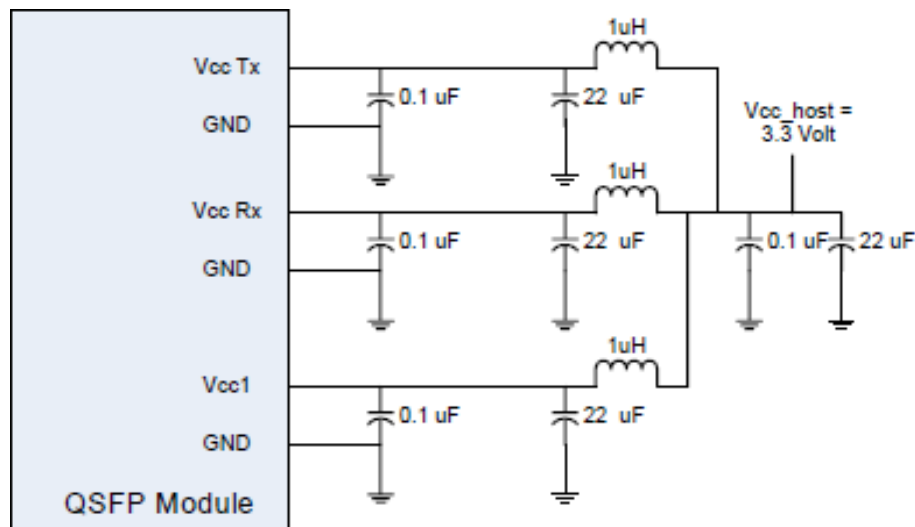
Notes:

- 1. Module circuit ground is isolated from module chassis ground with in the module.
- 2. Open collector; should be pulled up with 4.7k-10k ohms on host board to a voltage between 3.15V and 3.6V.

Electrical Pin-out Details



Recommended Host Board Power Supply Filter Network



Mechanical Specifications

