MJCED1-DZC-XXXT

Features

- Four-channel full-duplex active optical cable
- Complies with QSFP28 MSA high-density form factor
- Reliable VCSEL array technology using multimode fiber
- Hot Pluggable
- Low power dissipation: <2.5W per cable end
- Commercial operating case temperature range: 0ºC to 70ºC
- RoHS-6 Compliant
- Multirate capability: 10 Gb/s to 25 Gb/s per channel

Application

- IEEE 802.3bm 100GBASESR4and 40GBASE SR4
- Infiniband FDR/EDR

General Description

This product is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP8 SR4 for 100 or 40 Gigabit Ethernet, Infiniband FDR/EDR Applications. This transceiver is a high performance module for short-range multi-lane data communication and interconnect applications. It integrates four data lanes in each direction with 100Gbps bandwidth. Each lane can operate at 25.78Gbps up to 70m using OM3 fiber or 100m using OM4 fiber. These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 38 contact edge type connector. The optical interface uses an 12 fiber MTP (MPO) connector.

Specification:

Absolute Maximum Ratings				
Parameter	**Symbol**	**Min**	**Max**	**Unit**
Storage Ambient Temperature	T_{STG}	-40	85	℃
Operating Case Temperature	Tc	0	70	℃
Operating Humidity	H_O	5	85	%
Power Supply Voltage	Vcc	0	+3.6	V

Recommended Operating Conditions					
Parameter	**Symbol**	**Min**	**Typical**	**Max**	**Unit**
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Data Rate,each Lane			25.78		Gbps
Control Input Voltage High		2		VCC	V
Control Input Voltage Low		0		0.8	V

The following electrical characteristics are defined over the Recommended Operating temperature and supply voltage unless otherwise specified.						
Parameter	**Symbol**	**Min**	**Typical**	**Max**	**Unit**	**Notes**
Power Consumption, each Terminal				2.5	W	
Transmitter (each Lane)						
Parameter	**Symbol**	**Min**	**Typical**	**Max**	**Unit**	**Notes**
Signaling Speed per lane		25.78125 ± 100ppm			Gb/s	1
Center wavelength		840	850	860	nm	
Average launch power per lane	TXPx	-8.4		2.4	dBm	
Transmit OMA per lane	TxOMA	-6.4		3	dBm	
Extinction Ratio	ER	2			dB	
Average launch power of OFF Transmitter, per lane				-30	dBm	
Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3}		{0.3, 0.38, 0.45, 0.35, 0.41, 0.5}				2

Notes:

1.Transmitter consists of 4 lasers operating at a maximum speed of 25.78125Gb/s ± 100ppm each.

2.Hit ratio 1.5 * 10-3 hits/sample.

Receiver (each Lane)						
Parameter	**Symbol**	**Min**	**Typical**	**Max**	**Unit**	**Notes**
Signaling Speed per lane		25.78 ± 100ppm			Gb/s	3
Center wavelength		840	860		nm	
DamageThreshold	DT		5		dBm	
Average receive power per lane	RXPx	-8.4		2.4	dBm	4
Receiver Reflectance	Rfl			12	dB	
LOSDe-Assert	LOSD			-13	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5		2	dB	

Notes:

3.Receiver consists of 4 PD operating at a maximum speed of 25.78125Gb/s ± 100ppm each.

4.Minimum value is informative only and not the principal indicator of signal strength.

Pin Definition

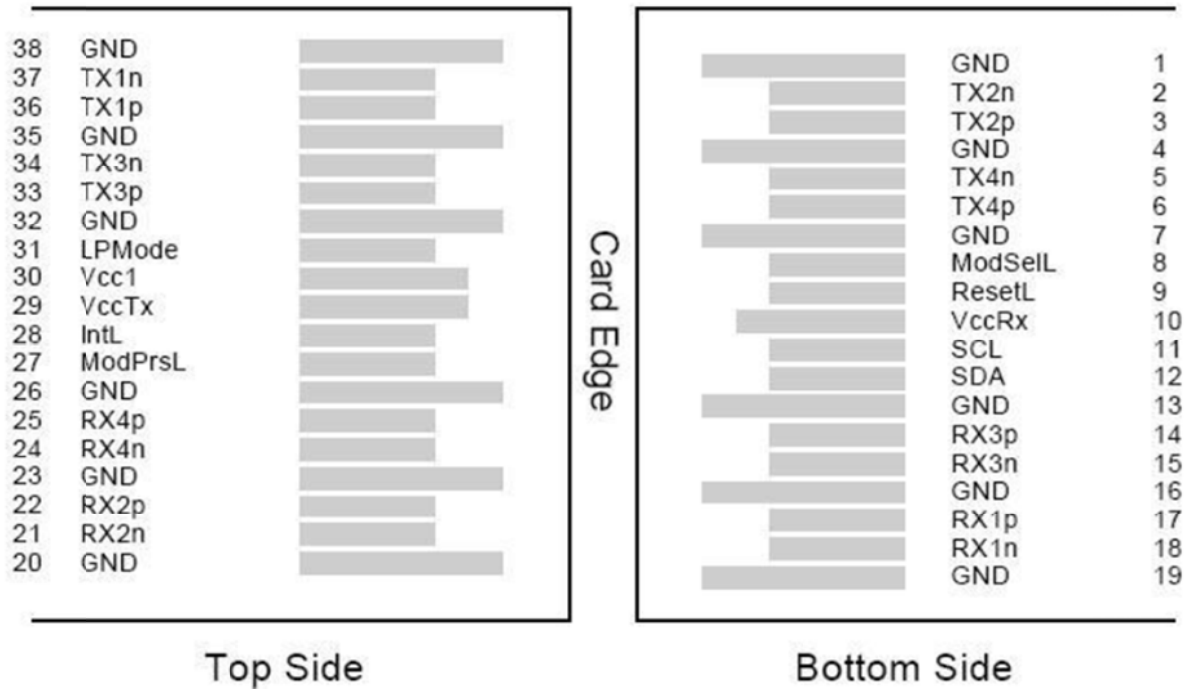


Figure1 QSFP MSA-compliant 38-pin connector

Pin	Symbol	Name/Description	Power Seq.	Ref.
1	GND	Ground	1	
2	TX2N	Transmitter Inverted Data Input		
3	TX2P	Transmitter Non-Inverted Data Input		
4	GND	Ground	1	
5	TX4N	Transmitter Inverted Data Input		
6	TX4P	Transmitter Non-Inverted Data Input		
7	GND	Ground	1	
8	ModSelL	Module Select		
9	ResetL	Module Reset		
10	Vcc Rx	+3.3 V Power supply receiver	2	
11	SCL	2-wire serial interface clock		
12	SDA	2-wire serial interface data		
13	GND	Ground	1	
14	RX3P	Transmitter Inverted Data Input		
15	RX3N	Transmitter Non-Inverted Data Input		
16	GND	Ground	1	
17	RX1P	Transmitter Inverted Data Input		
18	RX1N	Transmitter Non-Inverted Data Input		
19	GND	Ground	1	
20	GND	Ground	1	
21	RX2N	Transmitter Inverted Data Input		
22	RX2P	Transmitter Non-Inverted Data Input		
23	GND	Ground	1	
24	RX4N	Transmitter Inverted Data Input		
25	RX4P	Transmitter Non-Inverted Data Input		
26	GND	Ground	1	
27	ModPrsL	Module Present		
28	IntL	Interrupt		
29	VccTx	+3.3 V Power supply transmitter	2	
30	Vcc1	+3.3 V Power Supply	2	
31	LPMode	Low Power Mode		
32	GND	Ground	1	
33	TX3P	Transmitter Inverted Data Input		
34	TX3N	Transmitter Non-Inverted Data Input		
35	GND	Ground	1	

36	TX1P	Transmitter Inverted Data Input		
37	TX1N	Transmitter Non-Inverted Data Input		
38	GND	Ground	1	

Table 1: QSFP Module PIN Definition

Power Seq.：

1. GND is the symbol for signal and supply (power) common for QSFP8 modules. All are common within the QSFP8 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal common ground plane.

2. VccRx, Vcc1 and VccTx are the receiving and transmission power suppliers and shall be applied concurrently. Recommended host board power supply filtering is shown in Figure 3 below. Vcc Rx, Vcc1 and VccTx may be internally connected within the QSFP8 transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

Recommended Power Supply Filter

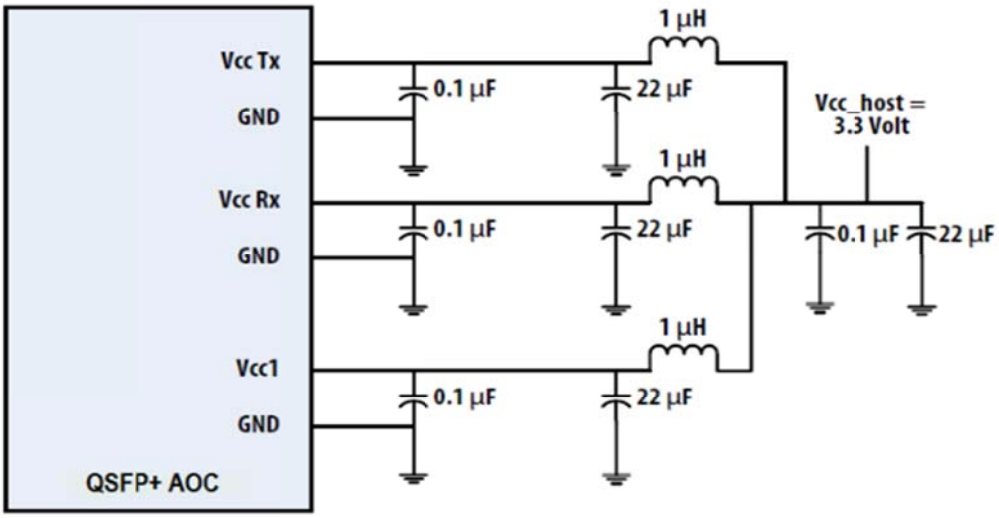
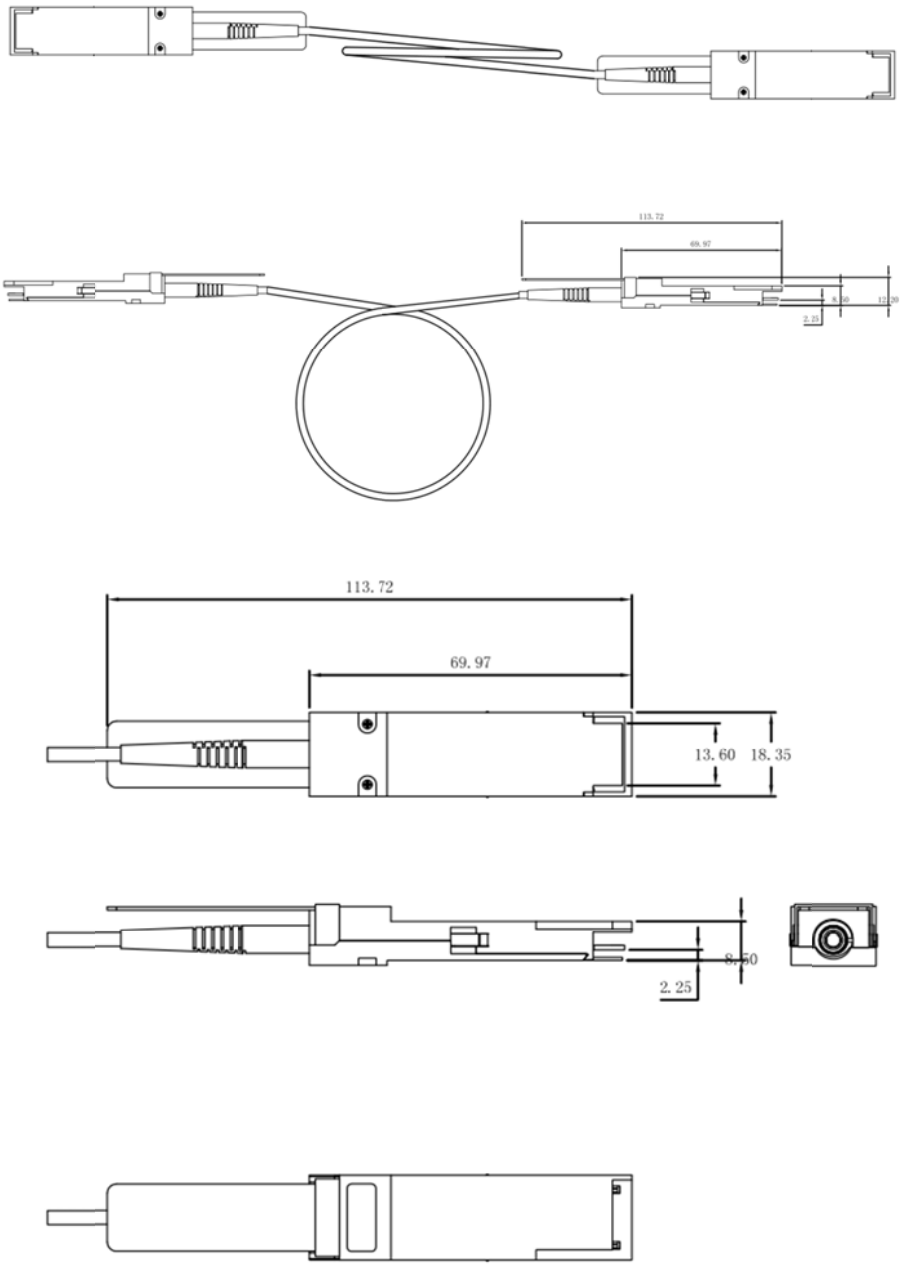


Figure2 Recommended Power Supply Filter

Package Outline

Dimensions are in millimeters. All dimensions are ±0.1mm unless otherwise specified.
(unit: mm)



Ordering information

Part. No	Specifications						
	Pack	Rate (Gbps)	Tx (nm)	Rx	Temp (℃)	Reach (m)	Others
MJCED1-DZC-001T	QSFP28	103.125	850 VCSEL	PIN	0~+70	1	RoHS
MJCED1-DZC-003T	QSFP28	103.125	850 VCSEL	PIN	0~+70	3	RoHS
MJCED1-DZC-005T	QSFP28	103.125	850 VCSEL	PIN	0~+70	5	RoHS
MJCED1-DZC-007T	QSFP28	103.125	850 VCSEL	PIN	0~+70	7	RoHS
MJCED1-DZC-010T	QSFP28	103.125	850 VCSEL	PIN	0~+70	10	RoHS
MJCED1-DZC-015T	QSFP28	103.125	850 VCSEL	PIN	0~+70	15	RoHS
MJCED1-DZC-020T	QSFP28	103.125	850 VCSEL	PIN	0~+70	20	RoHS
MJCED1-DZC-025T	QSFP28	103.125	850 VCSEL	PIN	0~+70	25	RoHS
MJCED1-DZC-030T	QSFP28	103.125	850 VCSEL	PIN	0~+70	30	RoHS
MJCED1-DZC-040T	QSFP28	103.125	850 VCSEL	PIN	0~+70	40	RoHS
MJCED1-DZC-050T	QSFP28	103.125	850 VCSEL	PIN	0~+70	50	RoHS
MJCED1-DZC-100T	QSFP28	103.125	850 VCSEL	PIN	0~+70	100	RoHS

*Note：

1. OM4 Cable length =<100m OM3 Cable length =<70m

2 . More detail product selection and cable lengths，please contact MNC