JNP-100G-AOC-XM-C
Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, Up to 7m)

Features

- QSFP28 MSA compliant
- Four independent full-duplex channels
- Supports 103.1Gb/s aggregate bit rate
- Up to 7m length
- Operating case temperature: 0°C to 70°C
- 4x25G electrical interface (OIF CEI-28G-VSR)
- Single 3.3V power supply
- Maximum power consumption 2.5W each terminal
- RoHS-6 compliant

Applications

- 100G Ethernet
- InfiniBand EDR

Product Description

This is a Juniper Networks® compatible 100GBase-AOC QSFP28 to QSFP28 active optical cable that operates over multi-mode fiber with a maximum reach up to 7.0m (23.0ft). At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

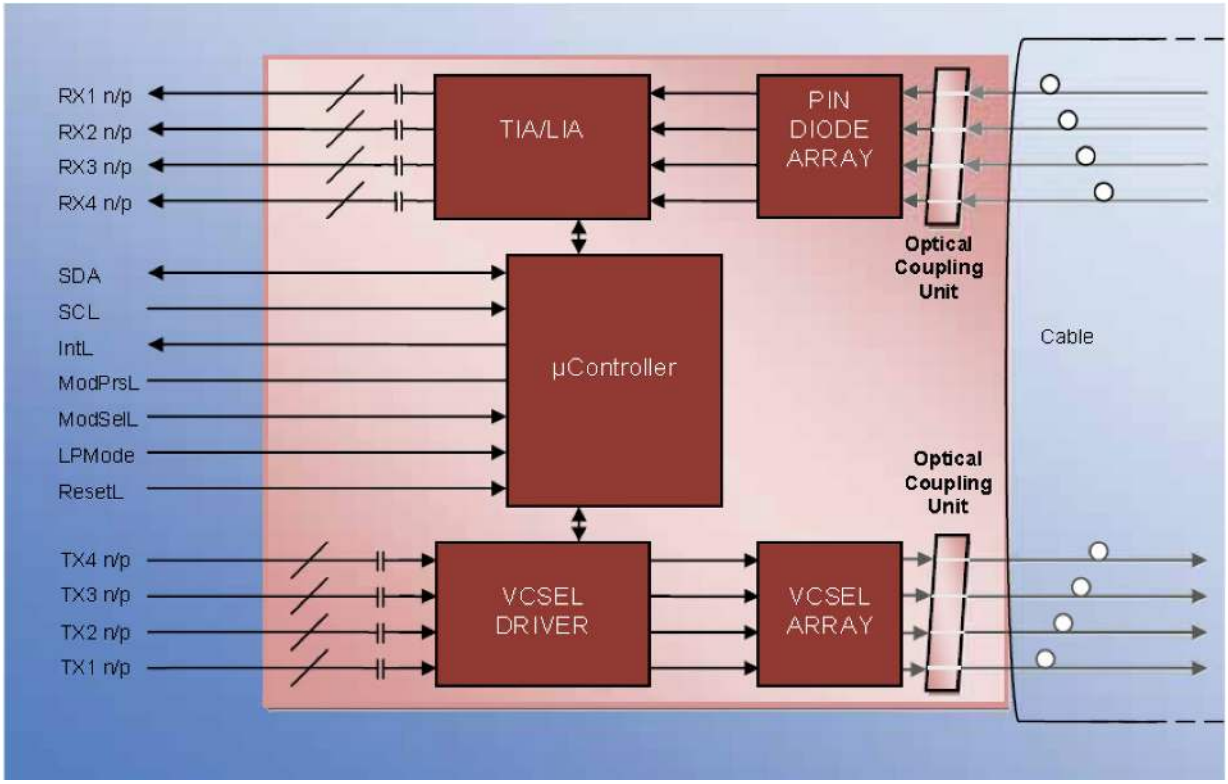
ProLabs' QSFP28 active optical cables are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."

Order Information

Part Number	Description
JNP-100G-AOC-2M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 2m)
JNP-100G-AOC-3M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 3m)
JNP-100G-AOC-4M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 4m)
JNP-100G-AOC-5M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 5m)
JNP-100G-AOC-6M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 6m)
JNP-100G-AOC-7M-C	Juniper Networks® Compatible TAA Compliant 100GBase-AOC QSFP28 Active Optical Cable (850nm, MMF, 7m)

AOC Block Diagram



Absolute Maximum Ratings

Parameter	Symbol	Min	Typ.	Max.	Unit
Storage Temperature	Ts	-40		85	degC
Operating case Temperature	Top	0		70	
Power Supply Voltage	Vcc	-0.5		3.6	V
Relative Humidity (non-condensation)	RH	0		85	%

Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Min	Typ.	Max.	Unit
Operating Case Temperature	Top	0		70	degC
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Data Rate, each Lane			25.78125		GB/s
Data Rate Accuracy		-100		100	ppm
Control Input Voltage High		2		Vcc	V
Control Input Voltage Low		0		0.8	V

Electrical Characteristics

Parameter	Test Point	Min.	Typical	Max	Units	Notes
Power Consumption				2.5	W	1
Supply Current	Icc			757	mA	1
Transmitter (each lane)						
Overload Differential Voltage	TP1a	900			mV	
Common Mode Voltage (Vcm)	TP1	-350		2825	mV	2
Differential Termination Resistance Mismatch	TP1			10	%	At 1MHz
Differential Return Loss (SDD11)	TP1			See CEI-28G0VSR Equation 13-19	dB	
Common Mode to Differential conversion and Differential to Common Mode conversion	TP1			See CEI-28G-VSR Equation 13-20	dB	
Stressed Input Test	TP1a	See CEI-28G-VSR Section 13.3.11.2.1				
Receiver (each lane)						
Differential Voltage, pk-pk	TP4			900	mV	
Common Mode Voltage (Vcm)	TP4	-350		2850	mV	2
Common Mode Noise, RMS	TP4			17.5	mV	
Differential Termination Resistance Mismatch	TP4			10	%	At 1MHz
Differential Return Loss (SDD22)	TP4			See CEI-28G-VSR Equation 13-19	dB	
Common Mode to Differential conversion and Differential to Common Mode conversion (SCC22)	TP4			-2	dB	3
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	0.57			UI	

Notes:

1. Per terminal.
2. Vcm is generated by the host. Specification includes effects of ground offset voltage.
3. From 250MHz to 30GHz

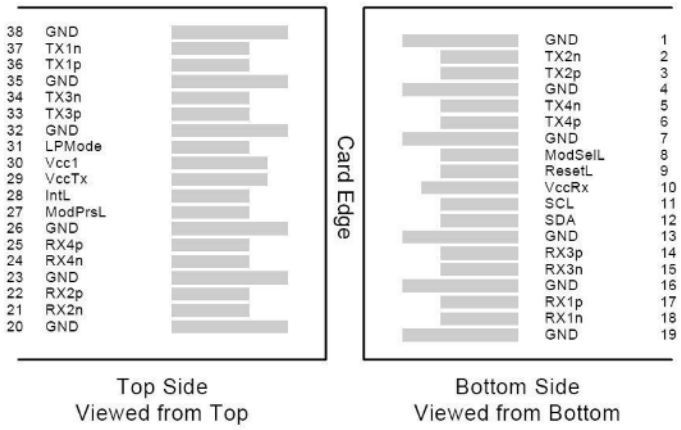
Pin Descriptions

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		VCCRx	+3.3v Receiver Power Supply	
11	LVCMOS-I	SCL	2-wire Serial interface clock	2
12	LVCMOS-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		VCCTx	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPMode	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

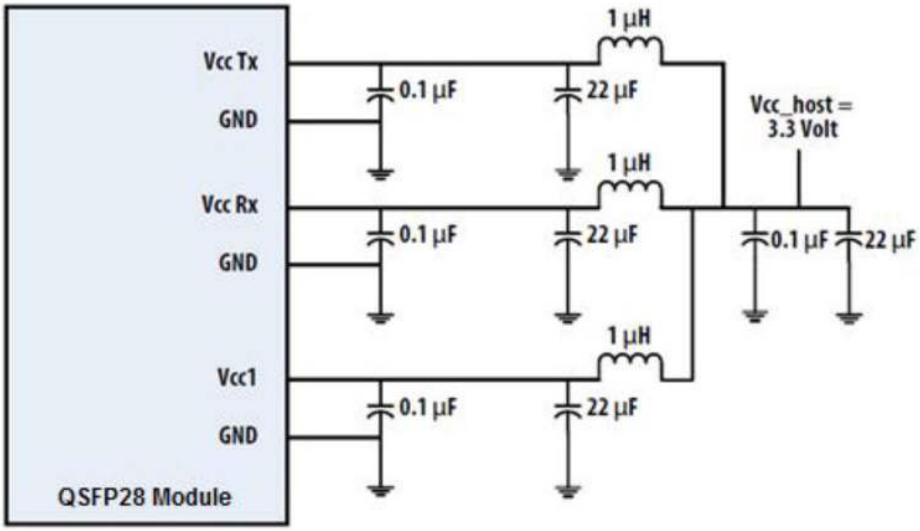
Notes:

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 Power Supply Filter



Mechanical Specification