Active Optical Cable QSFP+ to QSFP+, 40G, 1 to 25 Meter riser rated (OFNR), Coded for Various Platforms

AOC-QSP-ER-RRR-PPP

Features

- Operating Data Rates up to 40G
- Distance Range from 1 Meter to 25 Meters (additional standard and custom lengths are available)
- Hot Pluggable QSFP+
- Simplifies Patching & Offers a Cost-effective approach for Short Links
- Standard Temperature Range (available in Industrial Operating Temperatures)
- 100% compatible with other OEM and third-party Active Optical Cables

Applications

- Telecommunication Service Providers
- Metro Ethernet
- Intra-rack and across rack interconnect
- Transport Networks
- Switch and router high speed
- backplane interconnect
- High-performance computing clusters

Description

The L-com AOC-QSP-ER-RRR-PPP series is a 40G QSFP+ to QSFP+ Active Optical Cable, that is factory pre-programmed with all the necessary configuration data for seamless network integration and digital diagnostics for performance monitoring. The L-com AOC-QSP-ER-RRR-PPP Active Optical Cable series is designed, programmed and tested to perform identically to and is 100% compatible with other OEM and third-party Active Optical Cables. The L-com's AOC-QSP-ER-RRR-PPP Active Optical Cable series has been manufactured with riser rated (OFNR) cable in lengths from 1 meter to 25 meters (additional standard and custom lengths are available) of reach at a center wavelength of 850 nm. The L-com AOC-QSP-ER-RRR-PPP Active Optical Cable series is tested for 100% functionality and guaranteed compatible for outstanding network performance.

L-com offers all brands and form factors of Active Optical Cables, optical transceivers and cabling for all your networking needs. Now you have a reliable, compatible and affordable means to expand your network while maintaining its integrity. Contact our technical support and sales staff with your questions on fiber optic connectivity or other L-com products.

Configuration

Module Form Factor	QSFP+
Maximum Data Rate	40Gbps
Manufacturer Compatibility	Various Platforms, See Table
Distance	1 to 25 m
Jacket Burn Rating	OFNR

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Center Wavelength		850		nm
Supply Voltage (VccT, VccR)	3.14	3.3	3.46	V
Supply Current (Icc)			750	mA
Transmitter Differential Input Swing (Vin,pp)			900	mVpp
Transmitter Input Voltage Tolerance (VinT)	-0.3		4	V

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications:
AOC-QSP-ER-RRR-PPP

Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter
riser rated (OFNR), Universal Compatibility

AOC-QSP-ER-RRR-PPP

Receiver Output Voltage	-0.3	4	V

Environmental Specifications

Temperature
Operating Range   0C to 70C (Without air flow)
Storage Range   -40C to 85C

Relative Humidity   5% to 95%

Compliance Certifications (see product page for current document)

Plotted and Other Data
Notes:

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Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter
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QSFP+ Pin Assignment & Pin Assignment Table

Top Side		Bottom Side	
38	GND	GND	1
37	TX1n	TX2n	2
36	TX1p	TX2p	3
35	GND	GND	4
34	TX3n	TX4n	5
33	TX3p	TX4p	6
32	GND	GND	7
31	LPMode	ModSelL	8
30	Vcc1	ResetL	9
29	VccTx	VccRx	10
28	IntL	SCL	11
27	ModPrsL	SDA	12
26	GND	GND	13
25	RX4p	RX3p	14
24	RX4n	RX3n	15
23	GND	GND	16
22	RX2p	RX1p	17
21	RX2n	RX1n	18
20	GND	GND	19

Card Edge

Pin out of Connector Block on Host Board

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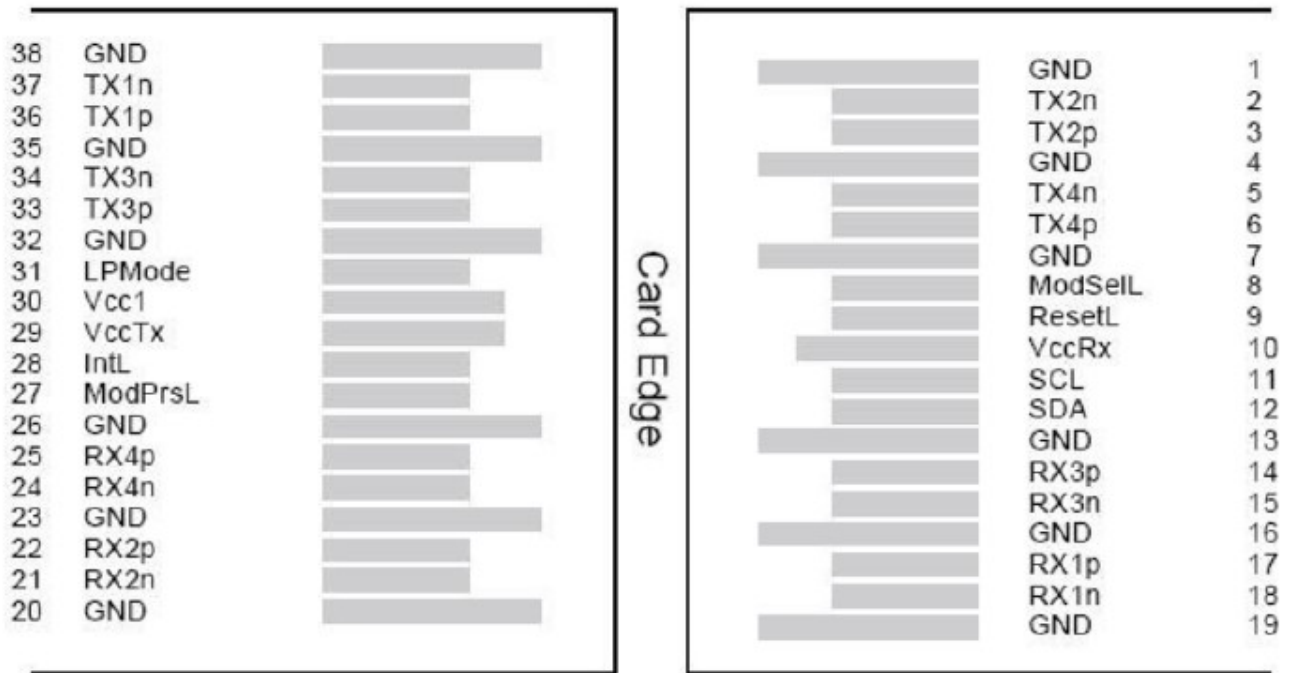
Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter
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Pin	Symbol	Name/Description	NOTE
1	GND	Transmitter Ground (Common with Receiver Ground)	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data output	
4	GND	Transmitter Ground (Common with Receiver Ground)	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data output	
7	GND	Transmitter Ground (Common with Receiver Ground)	1
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	VccRx	3.3V Power Supply Receiver	2
11	SCL	2-Wire serial Interface Clock	
12	SDA	2-Wire serial Interface Data	
13	GND	Transmitter Ground (Common with Receiver Ground)	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Transmitter Ground (Common with Receiver Ground)	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Transmitter Ground (Common with Receiver Ground)	1
20	GND	Transmitter Ground (Common with Receiver Ground)	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Transmitter Ground (Common with Receiver Ground)	1
24	Rx4n	Receiver Inverted Data Output	1
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Transmitter Ground (Common with Receiver Ground)	1
27	ModPrsl	Module Present	
28	IntL	Interrupt	
29	VccTx	3.3V power supply transmitter	2
30	Vcc1	3.3V power supply	2
31	LPMode	Low Power Mode，not connect	
32	GND	Transmitter Ground (Common with Receiver Ground)	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Output	
35	GND	Transmitter Ground (Common with Receiver Ground)	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Output	
38	GND	Transmitter Ground (Common with Receiver Ground)	1

Notes:
1. GND is the symbol for signal and supply (power) common for QSFP+ modules. All are common within the QSFP+ 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 below. Vcc Rx, Vcc1 and Vcc Tx may be internally connected within the QSFP28 transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

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Available Platforms			
OEM/Designations			
A10 Networks	A1N	Force10	F10
Accedian	ACC	Fortinet	FOR
Adtran	ADT	Fujitsu	FUJ
Adva	ADV	Fujitsu 4100	F41
Alcatel 73XX	A73	Fujitsu 7120	F71
Alcatel 7x50	A7x	Fujitsu CDS	FCD
Alcatel TSS-100	ATS	Fujitsu 9500	F95
Alcatel DMX	ADM	Gigamon	GIG
Alcatel LambdaUnite	ALU	Hewlett Packard	HPP
Alcatel OMNI	AOM	Huawei	HWI
Alcatel PSS 1830	A83	IBM	IBM
Allied Telesis	ATE	Infinera	INF
Arista	ARI	Ixia	IXA
Arista/Dell	ARD	Juniper	JUN
Arris	ARS	Mellanox	MEL
Avaya/Nortel Passport	ANP	Meraki	MER
Brocade/Foundry	BFO	MikroTik	MTK
BTI	BTI	MOXA	MOX
Calix	CLX	MRV	MRV
Check Point	CHP	MSA	MSA
Ciena	CAN	NetApp	NTA
Ciena/Nortel OM6500	CNO	NetScout	NTS
Canoga Perkins	CGP	Nokia	NOK
Cisco	CSC	Nokia 7xxx	N7x
Cisco ONS	ONS	Occam	OCM
Coriant	CRN	Optelian	OPT
Cyan	CYN	Palo Alto Networks	PAN
Dasan Networks	DAN	RAD	RAD
Dell	DLL	Raisecom	RAI
Edgecore Networks	ECN	Tejas Network	TEN
Ekinops	EKS	Telco	TEL
Enterasys	ENT	Tellabs	TLB
Ericsson	ERC	Transmode	TSM
Extreme	EXT	Ubiquiti Networks	UBI
F5	F5	Zhone	ZHO

Cable Lengths	
Meters	Designations
1	001
2	002
3	003
5	005
7	007
10	010
15	015
20	020
25	025
30	030

Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter
riser rated (OFNR), Universal Compatibility

AOC-QSP-ER-RRR-PPP

Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter riser rated (OFNR), Universal Compatibility from L-com has same day shipment for domestic and International orders. Our portfolio includes coaxial cable assemblies, connectors, adapters and custom products as well as lightning and surge protectors, NEMA rated enclosures, and an RF product line which includes antennas, amplifiers, passive, and active components.

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to impliment improvements. L-com reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. L-com does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and L-com does not assume liability arising out of the use of any part or document.

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Active Optical Cable QSFP+ to QSFP+, 40G, 1 Meter riser rated (OFNR), Universal Compatibility

L-com CAD Drawing

LENGTH

METERS	FEET
1.0	3.28
2.0	6.56
3.0	9.84
5.0	16.41
7.0	22.96
10.0	32.81
15.0	49.22
20.0	65.62
25.0	82.03

COMPATIBLE

ARISTA	BROCADE/FOUNDRY	CISCO	DELL	HEWLETT PACKARD	JUNIPER	MSA
	AOC-QSP-ER-001-BFO		AOC-QSP-ER-001-DLL	AOC-QSP-ER-001-HPP		
AOC-QSP-ER-002-ARI	AOC-QSP-ER-002-BFO	AOC-QSP-ER-002-CSC	AOC-QSP-ER-002-DLL	AOC-QSP-ER-002-HPP	AOC-QSP-ER-002-JUN	AOC-QSP-ER-002-MSA
	AOC-QSP-ER-003-BFO		AOC-QSP-ER-003-DLL	AOC-QSP-ER-003-HPP		
	AOC-QSP-ER-005-BFO		AOC-QSP-ER-005-DLL	AOC-QSP-ER-005-HPP		
			AOC-QSP-ER-007-DLL			
	AOC-QSP-ER-010-BFO		AOC-QSP-ER-010-DLL	AOC-QSP-ER-010-HPP		
AOC-QSP-ER-015-ARI	AOC-QSP-ER-015-BFO	AOC-QSP-ER-015-CSC	AOC-QSP-ER-015-DLL	AOC-QSP-ER-015-HPP	AOC-QSP-ER-015-JUN	AOC-QSP-ER-015-MSA
	AOC-QSP-ER-020-BFO		AOC-QSP-ER-020-DLL	AOC-QSP-ER-020-HPP		
AOC-QSP-ER-025-ARI	AOC-QSP-ER-025-BFO	AOC-QSP-ER-025-CSC	AOC-QSP-ER-025-DLL	AOC-QSP-ER-025-HPP	AOC-QSP-ER-025-JUN	AOC-QSP-ER-025-MSA

L-com
an INFINITE brand
50 High Street, West Mill,
North Andover, MA 01845 USA.
Phone: 1.800.341.5266
: 1.978.682.6936

CATEGORY FIBER OPTICS

PRODUCT DESCRIPTION
Active Optical Cable QSFP+
40Gb/s Riser Rated

CAGE CODE 4321 ITEM NO. AOC-QSP-ER
SIZE B SCALE NONE CAD FILE AOC-QSP-ER.SLDDRW REV A SHEET 1 OF 1

REVISIONS
REV	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	02/24/2023	PHOS/PODAR

APPROVALS DATE
DRAWN BY DF/RIBELLO 02/24/2023
CHECKED BY DJ/NA 02/24/2023
APPROVED BY PHOS/PODAR 02/24/2023

CONFIGURATION DETAILS OF
UNDIMENSIONED FEATURES
MAY VARY

COLOR VARIATIONS
MAY OCCUR

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