100G Active Optical Cable

QSFP28 to 4 x SFP28 break out AOC

Product Description

The QSFP28 to 4x SFP28 breakout Active Optical Cable offers IT professionals a cost-effective interconnect solution for migrating 100G QSFP28 and 25G SFP28 enabled host adapters, switches and servers.

AOC between an available QSFP28 port in a 100Gbps switch can support up to four 25GbE-SFP28 enabled switches. Each QSFP28-SFP28 splitter Active Optical cable features a single QSFP28 connector (SFF-8436) rated for 100Gbps in one end and four SFP28 connectors (SFF-8431), each rated for 25Gb/s, in the other.

Features

- Electrical interface compliant to SFF-8436 and SFF-8431
- Hot Pluggable
- 850nm VCSEL laser and PIN photodiode
- Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- Operating case temperature: 0 to 70℃
- Integrated CDR on both Tx and Rx side
- Digital diagnostics via I2C
- Metal housing for superior EMI performance
- RoHS-6 compliant

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Applications

- 100 Gigabit Ethernet
- 25GBASE-SR Ethernet
- Fibre Channel Applications
- InfiniBand QDR, FDR and EDR
- High-performance computing clusters
- Servers, switches, storage and host card adapters

Ordering Information

Part No.	Data Rate	AOC Length
HQS-71002-55-XM	100Gbps	X=1~70m

QSFP28 interface Specifications

Parameter	Description
Module Form Factor	QSFP28 (Supports SFF8436)
Data Rate, Each lane	25.78125Gbps
BER	<1E-12
Operating Case Temperature	0 to + 70°C
Storage Temperature	-20 to + 85°C
Supply Voltage	3.3V
Supply Current	Typical 560mA
Power Dissipation	<2.5W, Level 2
Management Interface Serial	I2C (Supports SFF8436)

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QSFP28 Optical Specification

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Centre Wavelength	λc	840	850	860	nm	-
RMS spectral width	Δλ	-	-	0.60	nm	-
Average launch power, each lane	Pout	-8.4	-	2.4	dBm	-
Optical Modulation Amplitude (OMA),each lane	OMA	-6.4		3	dBm	-
Transmitter and dispersion eye closure(TDEC),each lane	TDEC			4.3	dB	
Extinction Ratio	ER	3	-	-	dB	-
Average launch power of OFF transmitter, each lane				-30	dBm	-
Eye Mask coordinates: X1, X2, X3, Y1, Y2, Y3	SPECIFICATION VALUES 0.3,0.38,0.45,0.35,0.41.0.5					Hit Ratio = 5x10-5
Differential data input swing	VIN,PP	40		1000	mV	
Receiver						
Centre Wavelength	λc	840	850	860	nm	-
Stressed receiver sensitivity in OMA, each lane				-5.2	dBm	1
Maximum Average power at receiver input, each lane				2.4	dBm	-
Minimum Average power at receiver , each lane		-10.3			dBm	
Receiver Reflectance				-12	dB	-
LOS Assert		-30			dBm	-
LOS Deassert				-7.5	dBm	-
LOS Hysteresis		0.5			dB	-
Receive Eye Amplitude		300		800	mV	
Receive Eye Width		25			Ps	
Receive Eye Height		250			mV	

SFP28 interface Specifications

Parameter	Description
Module Form Factor	SFP28 (Supports SFF8431/SFF8432/SFF8472)
Channel Data Rate	25.78125Gbps
BER	<10-12
Operating Case Temperature	0 to + 70°C
Storage Temperature	-20 to + 85°C
Supply Voltage	3.3V
Supply current	Typical 180mA
Power Dissipation	<1W,Level I
Management Interface Serial	I2C (Supports SFF8472)

SFP28 Optical Specifications

	Symbol	Min.	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λt	840	850	860	nm	
RMS spectral width	Pm	-	-	0.6	nm	
Average Optical Power	Pavg	-8.4	-	2.4	dBm	
Optical Power OMA	POMA	-6.4		3	dBm	
Transmitter and dispersion eye closure(TDEC),each lane	TDEC			4.3	dB	
Extinction Ratio	ER	2	-	-	dB	3
Eye Mask coordinates: X1, X2, X3, Y1, Y2, Y3	SPECIFICATION VALUES 0.3,0.38,0.45,0.35,0.41.0.5					Hit Ratio = 5x10-5
Differential data input	VIN,PP	40		1000	mV	
Receiver						
Center Wavelength	λr	840	850	860	nm	
Stressed receiver sensitivity in OMA, each lane				-5.2	dBm	
Maximum Average power at receiver input, each lane				2.4	dBm	
Minimum Average power at receiver , each lane		-10.3			dBm	
Receiver Reflectance		-	-	-12	dB	
LOS De-Assert	LOSD			-7.5	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5			dB	
Receive Eye Amplitude		500		1300	mV	
Receive Eye Width		25			Ps	
Receive Eye Height		250			mV	

Mechanical Specifications