40G Active Optical Cable

QSFP+ to 4 x SFP+ break out AOC

Product Description

QSFP+ to 4x SFP+ breakout Active Optical Cable offers IT professionals a cost-effective interconnect solution for migrating 40G QSFP+ and 10G SFP+ enabled host adapters, switches and servers.

For typical applications, users can install this Active Optical break-out cable between an available QSFP+ port in their 40Gbps rated switch and support up to four upstream 10GbE-SFP+ enabled switches. Each QSFP+-SFP+ Active Optical breakout cable features a single QSFP connector (SFF-8436) rated for 40Gbps in one end and four SFP+ connectors (SFF-8431), each rated for 10-Gb/s, in the other.

Features

- Electrical interface compliant to SFF-8436 and SFF-8431
- Hot Pluggable
- 850nm VCSEL laser and PIN photodiode
- Up to 100m on OM3 MMF
- Operating case temperature: 0 to 70℃
- Digital diagnostics via I2C
- Metal housing for superior EMI performance
- RoHS-6 compliant

Hexatronic Fiberoptic AB
Maskingatan 16, 702 86 Örebro
019-30 40 40
info@hexatronic.se · www.hexatronic.se

Applications

- 40 Gigabit Ethernet
- Fibre Channel Applications
- InfiniBand DDR, , QDR
- High-performance computing clusters
- Servers, switches, storage and host card adapters

Ordering Information

Part No.	Data Rate	AOC Length
HQS-71001-55-xxM	40Gbps	x=1~70m

QSFP+ interface Specifications

Parameter	Description
Module Form Factor	QSFP+ (Supports SFF8436/SFF8472)
Channel Data Rate	Rate 40Gbps
BER	<10-12
Operating Case	0 to + 70°C
Storage Temperature	-20 to + 85°C
Supply Voltage	3.3V
Supply current	180mA per end typical
Management Interface	I2C (Supports SFF8472)

QSFP+ Optical Specifications

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Centre Wavelength	λc	840	850	860	nm	-
RMS spectral width	Δλ	-	-	0.65	nm	-
Average launch power, each lane	Pout	-7.5	-	2.5	dBm	1
Difference in launch power between any two lanes (OMA)				4	dB	-
Extinction Ratio	ER	3	-	-	dB	-
Peak power, each lane				4	dBm	1
ransmitter and dispersion penalty (TDP), each lane	TDP			3.5	dB	-
Average launch power of OFF transmitter, each lane				-30	dB	-
Eye Mask coordinates: X1, X2, X3, Y1, Y2, Y3	SPECIFICATION VALUES 0.23, 0.34, 0.43, 0.27, 0.35, 0.4					Hit Ratio = 5x10-5
Receiver						
Centre Wavelength	λc	840	850	860	nm	-
Stressed receiver sensitivity in OMA,				-5.4	dBm	
Maximum Average power at receiver input, each lane				2.4	dBm	-
Receiver Reflectance				-12	dB	-

Peak power, each lane				4	dBm	-
LOS Assert		-30			dBm	-
LOS De-Assert – OMA				-7.5	dBm	-
LOS Hysteresis		0.5			dB	-

SFP+ interface Specifications

Parameter	Description
Module Form Factor	SFP+ (Supports SFF8431/SFF8432/SFF8472)
Channel Data Rate	Rate 1 to 10.3125Gbps
BER	<10-12
Operating Case	0 to + 70°C
Storage Temperature	-20 to + 85°C
Supply Voltage	3.3V
Supply current	455mA maximum
Management Interface	I2C (Supports SFF8472)

SFP+ Optical Specifications

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λt	840	850	860	nm	
RMS spectral width	Pm	-	-	Note 1	nm	
Average Optical Power	Pavg	-6.5	-	-1	dBm	1
Extinction Ratio	ER	3.5	-	-	dB	2
Transmitter Dispersion	TDP	-	-	3.9	dB	
Relative Intensity Noise	Rin	-	-	-128	dB/Hz	12dB reflection
Optical Return Loss		-	-	12	dB	
Receiver						
Center Wavelength	λr	840	850	860	nm	
Receiver Sensitivity	Psens	-	-	-11.1	dBm	2
Stressed Sensitivity in OMA		-	-	-7.5	dBm	2
Los function	Los	-30	-	-12	dBm	
Overload	Pin	-	-	-1.0	dBm	2
Receiver Reflectance		-	-	-12	dB	

Notes:

1. The optical power is launched into MMF
2. Measured with a PRBS23 test pattern @10.3125Gbps

Hexatronic Fiberoptic AB
Maskingatan 16, 702 86 Örebro
019-30 40 40
info@hexatronic.se · www.hexatronic.se

Mechanical Specifications