100GBASE QSFP28 to 4 x 25GBASE SFP28 Breakout Active Optical Cable

SLQS28-4S-100AOC-XX

Overview

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

This 100G QSFP28 to 4 x 25G SFP28 AOC is designed for use in optical interconnection links up to 100m on Multi-Mode Fiber (MMF). Based on vertically integrated VCSEL array technology and designed with QSFP28 MSA-compliant high-density connectors, Sourcelight 100G QSFP28 to 4x 25G SFP28 AOC assemblies are compact, lightweight, and low power.

Features

- Four-channel full-duplex Active Optical Cable with breakout QSFP28 to four (4) SFP28
- Up to 25.78125Gb/s per channel with integrated CDR
- Hot Pluggable
- 850nm VCSEL laser and PIN photo-detector
- Low power dissipation:
  <2.5W on QSFP28 end;
  <1W on SFP28 ends
- Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- Digital diagnostics functions are available via the I^2C interface
- All-metal housing for superior EMI performance
- Operating case temperature 0°C to +70°C
- RoHS 6 compliant (lead free)

Applications

- Fibre Channel Applications
- InfiniBand QDR, SDR, DDR
- High-performance computing interconnect
- 4 x 25G Ethernet interconnect

Ordering Information

Part Number	Product Description
SLQS28-4S-100AOC-XX	100G QSFP28 to 4 x 25G SFP28 Active Optical Cable

XX: 01~70, 1~70 Length in meters on OM3 MMF
XX: 01~100, 1~100 Length in meters on OM4 MMF

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.3	3.6	V
Storage Temperature	Tst	-20	85	ºC
Case Operating Temperature	Top	0	70	ºC
Relative Humidity (non-condensing)	Rh	5	95	%

Note:
1. Non-considering

Interface Specifications

Parameter	Description
QSFP28	
Module Form Factor	QSFP28 (Supports SFF8436)
Data Rate, Each lane	25.78125Gbps
BER	$<10^{-12}$
Operating Case Temperature	0 to + 70ºC
Storage Temperature	-20 to + 85ºC
Supply Voltage	3.3V
Supply Current	Typical 560mA
Power Dissipation	<2.5W, Level 2
Management Interface Serial	I^2C (Supports SFF8436)
SFP28	
Module Form Factor	SFP28 (Supports SFF8431/SFF8432/SFF8472)
Channel Data Rate	25.78125Gbps
BER	$<10^{-12}$
Operating Case Temperature	0 to + 70ºC
Storage Temperature	-20 to + 85ºC
Supply Voltage	3.3V
Supply current	Typical 180mA
Power Dissipation	<1W, Level 1
Management Interface Serial	I^2C (Supports SFF8472)

Optical and Electrical Characteristics

The following optical characteristics are defined over the Recommended Operating Environment unless otherwise specified.

Parameter	Symbol	Min	Typical	Max	Unit	Notes
QSFP28						
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 De-Assert				-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

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	P_{OMA}	-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 swing	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	LOS_D			-7.5	dBm	
LOS Assert	LOS_A	-30			dBm	
LOS Hysteresis		0.5			dB	
Receive Eye Amplitude		500		1300	mV	
Receive Eye Width		25			Ps	
Receive Eye Height		250			mV	

Note:

1. Measured with conformance test signal at TP3 for BER = 10e-12

Mechanical Dimensions

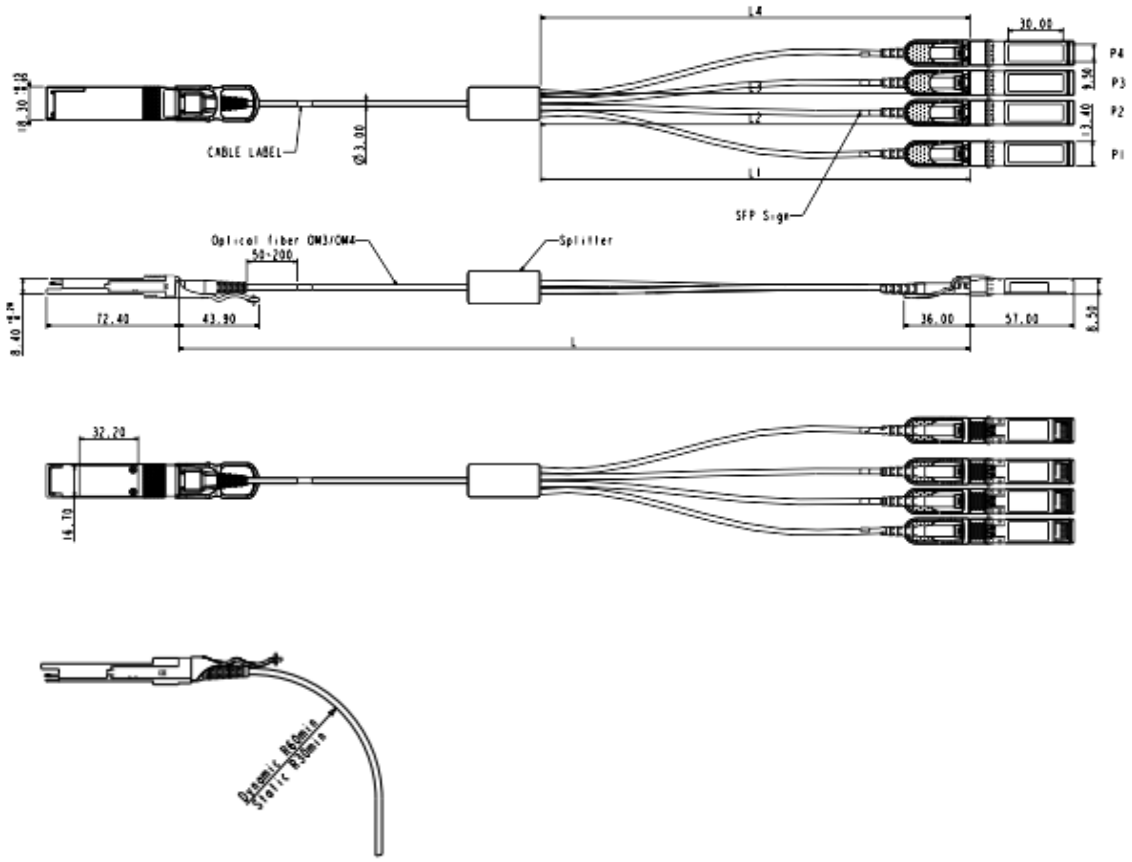

Figure1. Mechanical Specifications

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