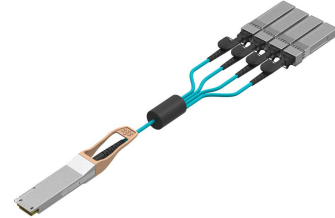


100G QSFP28 to 4x 25G SFP28 Breakout Active Optical Cables

P/N: GQP-MDO101-xxxC (xxx: 001 to 100)

Features

- ◆ SFF-8436 compliant QSFP28 connector
- ◆ 4x SFF-8431 compliant SFP28 connectors
- ◆ Hot-pluggable electrical interface
- ◆ 850nm VCSEL transmitter
- ◆ PIN photo-detector receiver
- ◆ Internal CDR circuits on both receiver and transmitter channels
- ◆ Low power consumption < 2.5W (QSFP28) < 1W (SFP28)
- ◆ Length up to 70m using OM3 MMF and 100m using OM4 MMF
- ◆ Operating case temperature range 0°C to +70°C
- ◆ All-metal housing for superior EMI performance
- ◆ RoHS-6 compliant (lead free)



Applications

- ◆ IEEE 802.3bm 100GBASE-SR4
- ◆ IEEE 802.3by 25GBASE-SR
- ◆ InfiniBand SDR/DDR/QDR
- ◆ High-Performance Computing (HPC) clusters
- ◆ Servers, switches, storage and host card adapters

Description

The Gigalight 100G QSFP28 to 4x 25G SFP28 breakout Active Optical Cables (AOCs) offer IT professionals a cost-effective interconnect solution for merging 100G QSFP28 and 25G SFP28 enabled host adapters, switches and servers.

For typical applications, users can install this breakout or splitter cable between an available QSFP28 port on 100GE switch and feed up to 4 upstream SFP28 enabled 25GE switches. Each cable features a single SFF-8436 compliant QSFP28 connector rated for 103Gb/s on one end and 4 SFF-8431 compliant SFP28 connectors rated for 25.78Gb/s each on the other end.

QSFP28 interface Specifications

Parameter	Description
Module Form Factor	QSFP28 (Supports SFF8436)
Data Rate, Each lane	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 560mA
Power Dissipation	$<2.5W$, Level 2
Management Interface Serial	I ² C (Supports SFF8436)

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
Transmitter						
Centre Wavelength	λ_c	840	850	860	nm	-
RMS spectral width	$\Delta\lambda$	-	-	0.60	nm	-
Average launch power, each lane	P _{out}	-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	V _{IN,PP}	40		1000	mV	
Receiver						
Centre Wavelength	λ_c	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	

Note:

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

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	I ² C (Supports SFF8472)

Optical and Electrical Characteristics

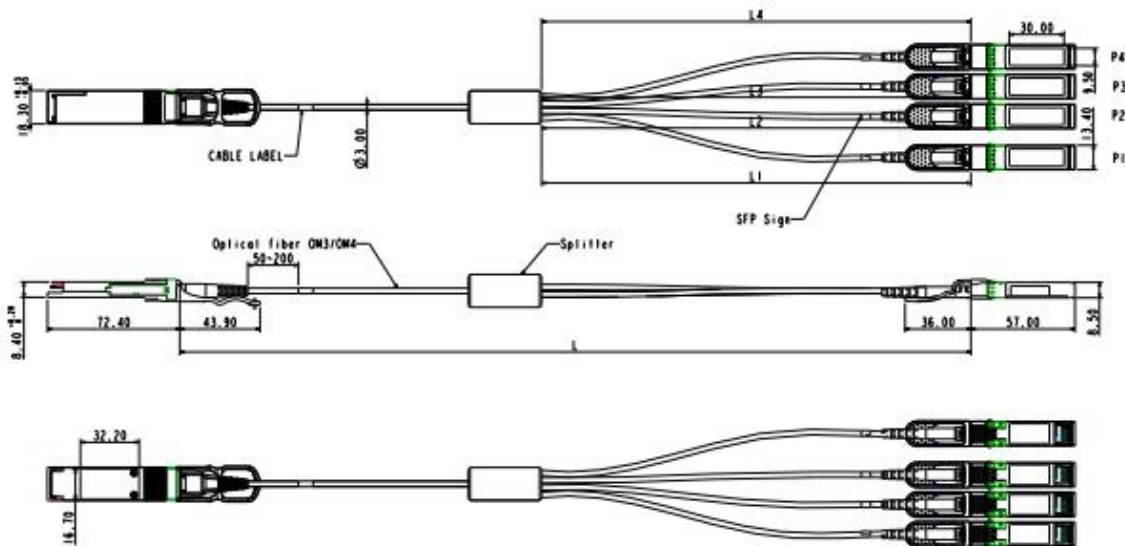
The following optical characteristics are defined over the Recommended Operating Environment unless otherwise specified.

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λ_t	840	850	860	nm	
RMS spectral width	P _m	-	-	0.6	nm	
Average Optical Power	P _{avg}	-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	λ_r	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



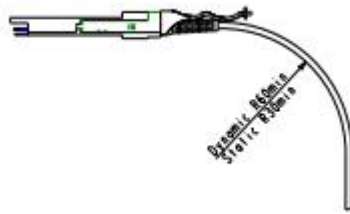


Figure1. Mechanical Specifications

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Ordering information

Part Number	Product Description
TP-MDO101-xxxC	100G QSFP28 to 4x 25G SFP28 Active Optical Cables
xxx: 001 to 100, 1 to 100 length in meters. (OM4 fiber is available)	
Further details are available from any Gigalight sales representative.	