

800G 4x200G OSFP Breakout Active Copper Cable



800G OSFP Cable Series

- Compliant to OSFP MSA
- Transmission data rate up to PAM4 106.25Gbps per channel
- Low power consumption
- Supports device programming by MCU with I2C
- Power supply 3.3V
- Operating case temperature
 0°C to +70°C
- RoHS2.0 compliant

Ascent's OSFP 800G to 4x200G breakout ACC is an 800Gb/s twin-port OSFP (Octal Small Form-factor Pluggable) to 2x400Gb/s OSFP passive Active Copper Cable (ACC) dual breakout cable.

The ACC uses 8-channels of 100G-PAM4 modulation and has lengths of 4 and 5 meters. The four 200G ends support 2channels of 100G-PAM4 with a flat top OSFP using riding heat sinks on the connector cage.

ACC cables are low-latency, low-power consuming, highspeed links. It comes with an equalizer integrated circuit to extend the length to 4 and 5-meters while maintaining lowlatency and low-power. Each end includes an EEPROM which provides product identification and characteristics to the host system.

Ascent solutions provide power-efficient connectivity enabling higher port bandwidth, density and configurability at a low cost and reduced power requirement in the data centers. Rigorous cable production testing ensures best outof-the-box installation experience, performance, and durability.

800G OSFP to 4x200G Breakout ACC



Key Features -

- Module compliant to OSFP MSA •
- InfiniBand NDR compatible
- Transmission data rate up to PAM4 106.25Gbps per channel .
- Low power consumption •
- Linear PAM4 programmable equalizer optimized for 56GBaud copper link up to max length 5M on • 25AWG
- **Enable Auto-Negotiation and Link Training** •
- Low latency<10ps •
- Supports device programming by MCU with I2C •
- Power supply 3.3V •
- Operating case temperature 0°C to +70°C •
- RoHS2.0 compliant •

Mechanical Dimensions





OSFP TYPE2					
GALIGE	OD	BEND	MIN. BEND		
GAUGE		RADIUS "R"	RADIUS "L"		
28AWG	10.2MM	21MM	81MM		
26/25AWG	12. 1MM	25MM	86MM		

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OSFP RHS					
GAUGE	OD	BEND RADIUS "R"	MIN. BEND RADIUS "L"		
28AWG	5.1MM	10MM	55MM		
26/25AWG	6.3MM	13MM	60MM		



Pin Description



800G OSFP to 4x200G Breakout ACC



22	RX5n	Receiver Data	CML-O	Output to Host	3	
23	RX5p	Inverted Receiver Data Non-	CML-O	Output to Host	3	
24	GND	Ground			1	
25	RX3n	Receiver Data	CML-O	Output to Host	3	
26	RX3p	Receiver Data Non- Inverted	CML-O	Output to Host	3	
27	GND	Ground			1	
28	RX1n	Receiver Data Inverted	CML-0	Output to Host	3	
29	RX1p	Receiver Data Non- Inverted	CML-O	Output to Host	3	
30	GND	Ground			1	
31	GND	Ground			1	
32	RX2p	Receiver Data Non- Inverted	CML-O	Output to Host	3	
33	RX2n	Receiver Data Inverted	CML-O	Output to Host	3	
34	GND	Ground			1	
35	RX4p	Receiver Data Non- Inverted	CML-0	Output to Host	3	
36	RX4n	Receiver Data Inverted	CML-0	Output to Host	3	
37	GND	Ground			1	
38	RX6p	Receiver Data Non- Inverted	CML-0	Output to Host	3	
39	RX6n	Receiver Data Inverted	CML-0	Output to Host	3	
40	GND	Ground			1	
41	RX8p	Receiver Data Non- Inverted	CML-0	Output to Host	3	
42	RX8n	Receiver Data Inverted	CML-0	Output to Host	3	
43	GND	Ground			1	
44	INT/RSTn	Module Interrupt / Module Reset	Multi- Level	Bi-directional	3	See pin description for required circuit
45	VCC	+3.3V Power		Power from Host	2	eneure
46	VCC	+3.3V Power		Power from Host	2	
47	SDA	2-wire Serial interface data	lvcmos- I/O	Bi-directional	3	Open-Drain With pull-up resistor on Host
48	GND	Ground			1	
49	TX7n	Transmitter Data Inverted	CML-I	Input from Host	3	
50	ТХ7р	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
51	GND	Ground			1	
52	TX5n	Transmitter Data Inverted	CML-I	Input from Host	3	
53	ТХ5р	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
54	GND	Ground			1	

800G OSFP to 4x200G Breakout ACC



55	TX3n	Transmitter Data Inverted	CML-I	Input from Host	3
56	ТХ3р	Transmitter Data Non-Inverted	CML-I	Input from Host	3
57	GND	Ground			1
58	TX1n	Transmitter Data Inverted	CML-I	Input from Host	3
59	TX1p	Transmitter Data Non-Inverted	CML-I	Input from Host	3
60	GND	Ground			1

Note V °C °C % Gbps

Unit M AWG

Unit V mVpp V V V kHz

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Specifications -

Absolute Maximum Ratings						
Parameter	Symbol	Min.	Max.	Units		
Supply Voltage	V _{cc}	-0.3	3.3	3.6		
Storage temperature	Ts	-40		85		
Operating Case temperature	T _c	0		70		
Humidity	Rh	5		85		
Data Rate			800			
Recommended Operating Conditi	ons					
Parameter	Symbol	Min.	Тур.	Max.		
Length	L	0.5		5		
AWG		32		25		
Jacket material	Hair Tail Tec	Hair Tail Technology Net, Gray				
Electrical Characteristics						
Parameter	Symbol	Min.	Тур.	Max.		
Power supply voltage	Vcc	3.1	3.3	3.5		
Input Amplitude		800		1200		
Input LOW Voltage	VIL	-0.3		0.35*V _{cc}		
Input HIGH Voltage	VIH	0.65* Vo	c	V _{CC} +0.3		
Output Logic LOW	VOL			0.25*V _{cc}		
I2C Master Mode Output Frequency			400			

High-Speed Specifications

800G end Power consumption

400G end Power consumption

Parameter	Symbol	Min.	Тур.	Max.	Unit	
Raw cable impedance	Zca	90	100	110		ohm
Mated connector Impedance	Zmated	85		115		ohm
Maximum insertion Loss at 26.56 GHz	SDD21	11		19.75	dB	
Differential to common-mode return loss	SCD11/22	$RLcd(f) \ge \begin{cases} \\ For 0.05 \end{cases}$	22 - 10(f/2) 15 - 3(f/2) = f = 40 frequer	$\begin{array}{l} 26.56) & 0.05 \le f < 26.56 \\ 6.56) & 26.56 \le f \le 40 \\ \end{array}$ GHz, Where f is the ney in GHz	V	
Differential to common-mode conversion loss	SCD21- SDD21	Conversion_lo	$oss(f) - IL(f) \ge \begin{cases} \\ 5 &= f = 40 \\ frequer \end{cases}$	$ \begin{array}{c} 10 & 0.05 \le f < 12.89 \\ 14 - 0.3108f & 12.89 \le f \le 40 \\ \end{array} \\ \begin{array}{c} \text{GHz, Where f is the} \\ \text{ncy in GHz} \end{array} $	V	
Common-mode to common-mode return loss	SCC11/22	For 0.05	RLC =f =40 freque	C)≥18 GHz, Where f is the ncy in GH	kHz	
Minimum COM	COM	3			dB	
Minimum cable assembly ERL	ERL	8.25			dB	
BER				2.4x10 ⁻⁴		

1.2

0.3

1.5

0.4



Ordering Information

Product Name OSP8-4OSP2-ACC05

Product Description

800G OSFP to 4x200G OSFP Active Copper Breakout Cable, IB twin port NDR, , Finned top 800G to 4x200G Flat top, 5m (16ft)

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