

800G Twin-port 2x400G OSFP Passive DAC Cable



800G OSFP Cable Series

- **Compliant to OSFP MSA**
- **Transmission data rate up to PAM4 106.25Gbps per channel**
- **Enable 800Gb/s Transmission**
- **Link length up to 3m**
- **Built-in EEPROM functions**
- **Operating case temperature 0°C to +70°C**
- **RoHS2.0 compliant**

800G OSFP DAC (Passive Direct Attach Copper) enables high-bandwidth 800G links and supports 800G Ethernet rate. It provides an OSFP copper direct-attach solution. This cable is compliant with OSFP MSA (Multi-Source Agreement), IEEE 802.3ck and 400GBase-CR4 standards. This direct attach copper twinax cable is suitable for short-distance connectivity within a rack or between adjacent racks in data centers.

The 800G OSFP DAC cable contains 16 (8 transmitting and 8 receiving) high-speed copper pairs, each operating at data rates of up to 106.25Gb/s, which are suitable for very short links and offer a cost-effective and power-efficient way to establish a 800-Gigabit link between OSFP ports of switches/routers within racks and across adjacent racks.

The 800G OSFP DAC assembly is high-speed, cost-effective alternatives to OSFP optical modules in 800G Ethernet applications. It meets OSFP800 MSA, IEEE802.3ck, 400GBase-CR4 standards. These high performance 800G OSFP-to-OSFP copper direct-attach cables are offered in lengths of 1, 1.5, and 2 meters.

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OSFP TYPE2

GAUGE	OD	BEND RADIUS "R"	MIN. BEND RADIUS "L"
28AWG	10.2MM	21MM	81MM
26/25AWG	12.1MM	25MM	86MM

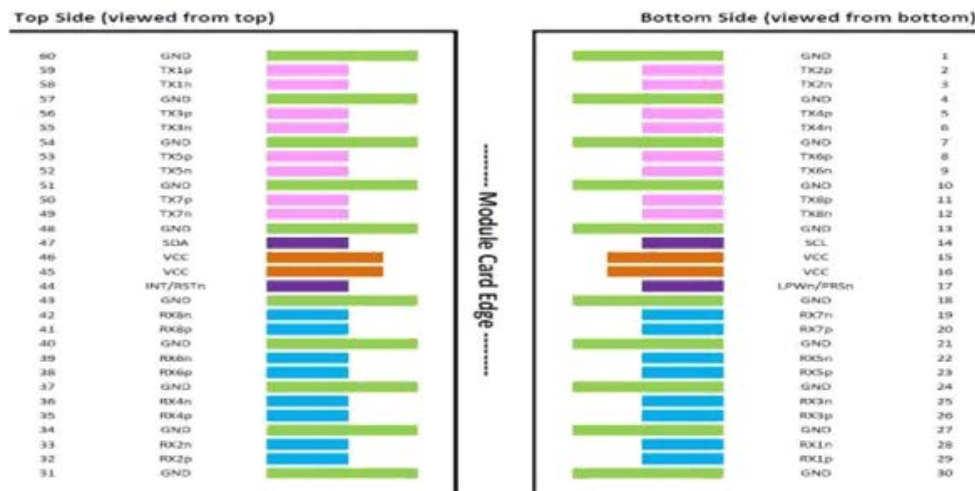
OSFP RHS

GAUGE	OD	BEND RADIUS "R"	MIN. BEND RADIUS "L"
28AWG	10.2MM	21MM	65MM
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Pin Description



Pin	Symbol	Description	Logic	Direction	Plug Sequence	Notes
1	GND	Ground			1	
2	TX2p	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
3	TX2n	Transmitter Data Inverted	CML-I	Input from Host	3	
4	GND	Ground			1	
5	TX4p	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
6	TX4n	Transmitter Data Inverted	CML-I	Input from Host	3	
7	GND	Ground			1	
8	TX6p	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
9	TX6n	Transmitter Data Inverted	CML-I	Input from Host	3	
10	GND	Ground			1	
11	TX8p	Transmitter Data Non-Inverted	CML-I	Input from Host	3	
12	TX8n	Transmitter Data Inverted	CML-I	Input from Host	3	
13	GND	Ground			1	
14	SCL	2-wire Serial interface clock	LVCMOS-I/O	Bi-directional	3	
15	VCC	+3.3V Power		Power from Host	2	
16	VCC	+3.3V Power		Power from Host	2	
17	LPWn/PRStn	Low-Power Mode/Module Present	Multi-Level	Bi-directional	3	
18	GND	Ground			1	
19	RX7n	Receiver Data Inverted	CML-O	Output to Host	3	
20	RX7p	Receiver Data Non-Inverted	CML-O	Output to Host	3	
21	GND	Ground			1	
22	RX5n	Receiver Data Inverted	CML-O	Output to Host	3	
23	RX5p	Receiver Data Non-Inverted	CML-O	Output to Host	3	
24	GND	Ground			1	

25	RX3n	Receiver Data Inverted	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-O	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-O	Output to Host	3
36	RX4n	Receiver Data Inverted	CML-O	Output to Host	3
37	GND	Ground			1
38	RX6p	Receiver Data Non-Inverted	CML-O	Output to Host	3
39	RX6n	Receiver Data Inverted	CML-O	Output to Host	3
40	GND	Ground			1
41	RX8p	Receiver Data Non-Inverted	CML-O	Output to Host	3
42	RX8n	Receiver Data Inverted	CML-O	Output to Host	3
43	GND	Ground			1
44	INT/RSTn	Module Interrupt / Module Reset	Multi-Level	Bi-directional	3
45	VCC	+3.3V Power		Power from Host	2
46	VCC	+3.3V Power		Power from Host	2
47	SDA	2-wire Serial interface data	LVC MOS-I/O	Bi-directional	3
48	GND	Ground			1
49	TX7n	Transmitter Data Inverted	CML-I	Input from Host	3
50	TX7p	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	TX5p	Transmitter Data Non-Inverted	CML-I	Input from Host	3
54	GND	Ground			1
55	TX3n	Transmitter Data Inverted	CML-I	Input from Host	3
56	TX3p	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

Module Memory Map

Compatible with CMIS rev 5.0 or further CMIS revisions and customer spec

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units	Note
Supply Voltage	V _{cc}	3.13	3.3	3.47	V
Storage temperature	T _s	-40		85	°C
Operating Case temperature	T _c	0		70	°C
Humidity	Rh	5		85	%
Data Rate			800		Gbps

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L	0.5		3.0	M
AWG		28		25	AWG
Jacket material	Hair Tail Technology Net, Gray				

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	ohm
Insulation Resistance	Rins			10	Mohm
Raw cable impedance	Zca	95		110	ohm
Mated connector Impedance	Zmated	85		110	ohm
	SDD21	11		18	1.5M
Maximum insertion Loss at 26.56 GHz				19.75	2.0M
		0.5		25.3	3.0M
Differential to common-mode return loss	SCD11/22	$RL_{cd}(f) \geq \begin{cases} 22 - 10(f/26.56) & 0.05 \leq f < 26.56 \\ 15 - 3(f/26.56) & 26.56 \leq f \leq 40 \end{cases}$ For 0.05 ≤ f ≤40 GHz, Where f is the frequency in GHz			dB
Differential to common-mode conversion loss	SCD21-SDD21	$Conversion_loss(f) - IL(f) \geq \begin{cases} 10 & 0.05 \leq f < 12.89 \\ 14 - 0.3108f & 12.89 \leq f \leq 40 \end{cases}$ For 0.05 ≤ f ≤40 GHz, Where f is the frequency in GHz			dB
Common-mode to common-mode return loss	SCC11/22	RLCC ≥18 For 0.05 ≤ f ≤40 GHz, Where f is the frequency in GHz			dB
Minimum COM	COM	3			dB

Ordering Information

Product Name	Product Description
OSFP-800G-DAC01	800G OSFP Passive Direct Attach Copper Cable, IB twin port NDR, 1m (3ft), 28AWG, Flat top to Finned top
OSFP-800G-DAC02	800G OSFP Passive Direct Attach Copper Cable, IB twin port NDR, 2m (6ft), 28AWG, Flat top to Finned top

Contact Information



Ascent Communication Technology Ltd

AUSTRALIA

140 William Street, Melbourne
Victoria 3000, AUSTRALIA
Phone: +61-3-8691 2902

CHINA

Unit 1933, 600 Luban Road
200023, Shanghai, CHINA
Phone: +86-21-60232616

EUROPE

Pfarrer-Bensheimer-Strasse 7a
55129 Mainz, GERMANY
Phone: +49 (0) 6136 926 3246

Hong Kong SAR

Unit 9, 12th Floor, Wing Tuck Commercial Centre
177 Wing Lok Street, Sheung Wan, Hong Kong SAR
Phone: +852-2851 4722

USA

2710 Thomes Ave
Cheyenne, WY 82001, USA
Phone: +1-203 816 5188

VIETNAM

11th Floor, Hoa Binh Office Tower
106 Hoang Quoc Viet Street, Nghia Do Ward
Cau Giay District, Hanoi 10649, VIETNAM
Phone: +84-24-37955917

WEB: www.ascentcomtec.com

EMAIL: sales@ascentcomtec.com

Specifications and product availability are subject to change without notice.

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