800G OSFP Flat Top Passive Direct Attach Copper Twinax Cable

OSFPFL-800G-PCxxx



Application

- Ethernet

Standards

- OSFP MSA
- CMIS Rev 5.0
- EIA 364-1000
- IEEE 802.3cK

Features

- Maximum Link Length: up to 3 m
- OSFP Module Fully Compliant to the Latest IEEE 802. 3cK &OSFP MSA
- Support 800G Standards with Different Data Rate Applications
- Low Power Consumption 0. 1W
- Operating Temperature Range: 0 to 70℃

Description

The 800G OSFP DAC provides a OSFP-to-OSFP copper direct-attach solution and it is suitable for very short links and offer a cost-effective way to establish a 800-Gigabit link between OSFP-800G ports of switches/routers within racks and across adjacent racks. This DAC is designed with ultra-low loss materials, square rings, twisted pair cable 8 wires and shell extension construction for superior mechanical properties and bending performance.

Product Specifications

I. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Notes
Storage Temperature	T_s	-40	85	℃	
Operating Case Temperature	T_{case}	0	70	℃	
Power Supply Voltage	V_{CC}	3.135	3.465	V	Power loss: 0.5W max.
Relative Humidity	RH		85	%	

II. Electrical Performance Requirements

Test Items	Test Condition	Specification
Current		0.5A per contact
Voltage		30 vDC per contact
LLCR	EIA 364-23, 20mVdc, 100mA	less than 2 ohms
Continuity	Verify the continuous electrical path	No open, short, or high resistance.

III. SI Requirements (only Reference)

Test Items	Specification	Notes
SDD21&SDD12	(please reference only ,when the length is more than 1.5m) ≤19.75 dB Min. @26.56 GHz; ≥ 11.0 dB max. @26.56GHz;	From 0.01 GHz to 26.56GHz
ERL	Minimum cable assembly ERL(*) : ≥ 8.25dB	
SCD12-SDD22 SCD21-SDD21	≥ 10 0.05GHz≤f<12.89GHz ≥ 14-0.3108f 12.89GHz≤f≤40GHz	Up to 40GHz

IV. Mechanical Performance Requirements

Item	Test Condition	Specification
Mating Forces	A rate of 10mm per minute	OSFP<40N
Un-mating Forces	A rate of 10mm per minute	OSFP<30N
Latch Strength	Pull to separate module from cage, Test with connector, cage & module (latch engaged)	Minimum of an 125N force
Bulk Cable Retention in Module	Pull to separate bulk cable from module,Test with cable assembly only	Minimum of an 90N force
Wire Flex	Flex cable 180° for 10 cycles atX/Y axis, 20 times/minutes, with an 1kg suspended weight. Type C EIA 364-41, test condition I.	No microsecond discontinuities are allowed.
Durability	Perform 50 unplug/plug cycles	No evidence of physical damage
Cable Minimum Bend Radius	Min. bending radius allowed : repeated 10X ø. single 5X ø	1. No physical damage 2. Verify continuity and SI

V. Product Requirements

Design and Construction

- **Connector**

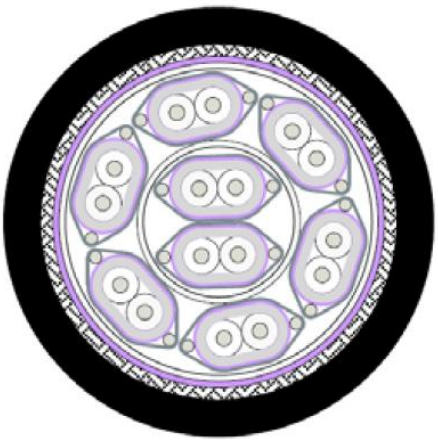
The connector meets the various dimensional and physical requirements outlined in the OSFP MSA specification



Picture 1

- **Cable**

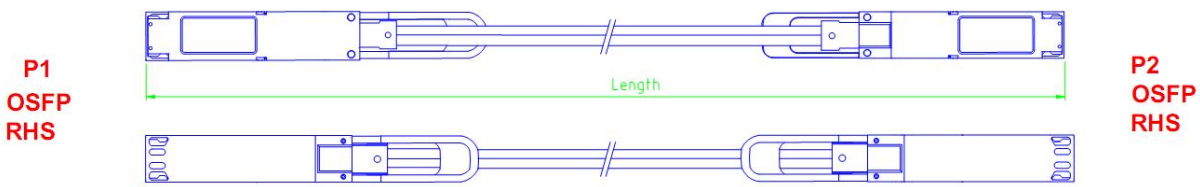
Cable type is a 100 ohm twinax cable which consists of 8 parallel pairs.
Printing on the cable is defined in the respective cable specification.
Each pair consists of two signal conductors and two drains wire wrapped in a shield.



Picture 2

- **Cable Assembly**

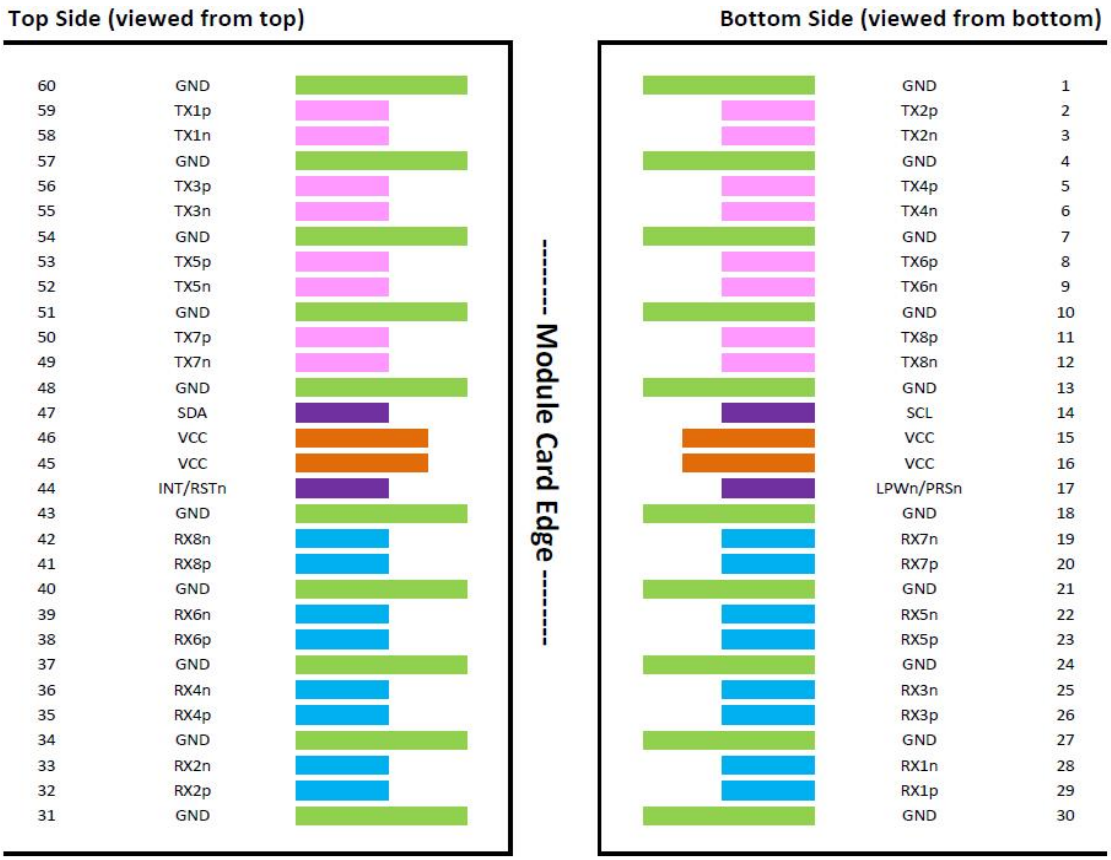
Cable Bulk shield is directly to be connected to the connector backshell to minimize EMI. Each cable assembly is labelled with a unique identification label.



Picture 3

VI. Pin Definition

Picture4 is OSFP pin definitions as OSFP MSA defined



Picture 4

VII. Wire Connection

Pair No.	P1		P2	
	Pin	Signal	Pin	Signal
1	28	RX1n	58	TX1n
	29	RX1p	59	TX1p
2	59	TX1p	29	RX1p
	58	TX1n	28	RX1n
3	33	RX2n	3	TX2n
	32	RX2p	2	TX2p
4	2	TX2p	32	RX2p
	3	TX2n	33	RX2n
5	25	RX3n	55	TX3n
	26	RX3p	56	TX3p
6	56	TX3p	26	RX3p
	55	TX3n	25	RX3n
7	36	RX4n	6	TX4n
	35	RX4p	5	TX4p
8	5	TX4p	35	RX4p
	6	TX4n	36	RX4n

Pair No.	P1		P2	
	Pin	Signal	Pin	Signal
9	22	RX5n	52	TX5n
	23	RX5p	53	TX5p
10	53	TX5p	23	RX5p
	52	TX5n	22	RX5n
11	39	RX6n	9	TX6n
	38	RX6p	8	TX6p
12	8	TX6p	38	RX6p
	9	TX6n	39	RX6n
13	19	RX7n	49	TX7n
	20	RX7p	50	TX7p
14	50	TX7p	20	RX7p
	49	TX7n	19	RX7n
15	42	RX8n	12	TX8n
	41	RX8p	11	TX8p
16	11	TX8p	41	RX8p
	12	TX8n	42	RX8n

Test Center

I. Compatibility Testing

Each fiber optical transceiver has been tested in host device on site in FS Assured Program to ensure full compatibility with over 200 vendors.



Cisco Catalyst C9500-24Y4C



Cisco MS425-16



Brocade VDX 6940-144S



Dell EMC Networking Z9100-ON



Force⑩tm S60-44T

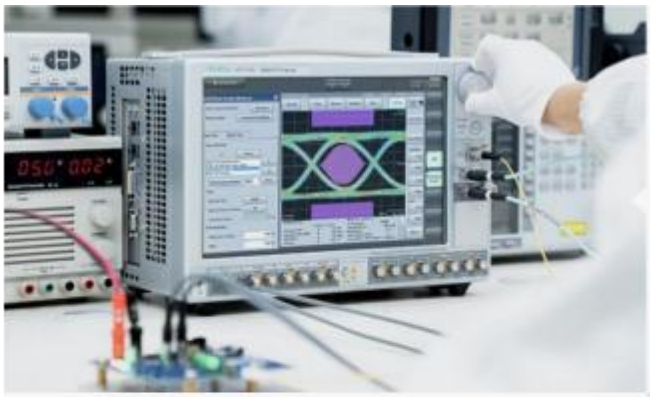


HUAWEI S6720-30L-HI-24S

Above is part of our test bed network equipment. For more information, please click the Test Bed PDF. It will be updated in realtime as we expand our portfolio.

II. Performance Testing

Each fiber optical transceiver has been fully tested in FS Assured Program equipped with world's most advanced analytical equipment to ensure that our transceivers work perfectly on your device.



1. TX/RX Signal Quality Testing

Equipped with the all-in-one tester integrated 4ch BERT & sampling oscilloscope, and variable optical attenuator to ensure the input and output signal quality.

- Eye Pattern Measurements: Jitter, Mask Margin, etc
- Average Output Power
- OMA
- Extinction Ratio
- Receiver Sensitivity
- BER Curve

2. Reliability and Stability Testing

Subject the transceivers to dramatic changes in temperature on the thermal shock chamber to ensure reliability and stability of the transceivers.

- Commercial: 0 °C to 70 °C
- Extended: -5 °C to 85 °C
- Industrial: -40 °C to 85 °C





3. Transfer Rate and Protocol Testing

Test the actual transfer data rate and the transmission ability under different protocols with Network Master Pro.

- Ethernet
- Fibre Channel
- SDH/SONET
- CPRI

4. Optical Spectrum Evaluation

Evaluate various important parameters with the Optical Spectrum Analyzer to meet the industry standards.

- Center Wavelength, Level
- OSNR
- SMSR
- Spectrum Width



Order Information

Part Number	Data Rate	Length	Wire Gauge	Connector Type	Temp. Range	Cable Jacket
OSFPFL-800G-PC005	800G	0.5m	30AWG	Passive Copper	0 to 70℃	LSZH
OSFPFL-800G-PC01	800G	1m	28AWG	Passive Copper	0 to 70℃	LSZH
OSFPFL-800G-PC015	800G	1.5m	28AWG	Passive Copper	0 to 70℃	LSZH
OSFPFL-800G-PC02	800G	2m	28AWG	Passive Copper	0 to 70℃	LSZH
OSFPFL-800G-PC025	800G	2.5m	26AWG	Passive Copper	0 to 70℃	LSZH
OSFPFL-800G-PC03	800G	3m	26AWG	Passive Copper	0 to 70℃	LSZH