

SFP-25G-DAC-PxM

25G SFP28 Passive Direct Attach Copper Cable (PCC), 0.5~5 meters

Features

- Up to 25.78 Gbps data rate
- Up to 5 meter transmission
- Hot-pluggable SFP 20PIN footprint
- Improved Pluggable Form Factor(IPF) compliant for enhanced EMI/EMC performance
- Compatible to SFP28 MSA
- Compatible to SFF-8402 and SFF-8432
- Low insertion loss and low crosstalk
- Operating temperature range: 0 to 70°C
- RoHS Compliant and Lead-Free
- Cost-effective copper solution
- Lowest total system power solution
- Optimized design for Signal Integrity



Applications

- 25G Ethernet
- Data Center

Description

Optcore's SFP28 passive cable assemblies are high-performance, low-cost 25G Ethernet I/O connectivity solutions designed to address datacenters' rising bandwidth requirements. The 25G SFP28 passive copper cable has a single high-speed copper pair capable of data transfer rates of up to 25Gb/s. This SFP28 copper cable allows hardware manufacturers to achieve high port density, reconfigurability, and utilization at a low cost and small power budget.

Ordering information

Part Number	Data Rate	Cable Length	Wire Gauge		
SFP-25G-DAC-P05M	25Gbps	0.5 m	/	/	AWG30
SFP-25G-DAC-P1M	25Gbps	1 m	/	/	AWG30
SFP-25G-DAC-P2M	25Gbps	2 m	/	/	AWG30
SFP-25G-DAC-P3M	25Gbps	3 m	/	AWG26	AWG30
SFP-25G-DAC-P4M	25Gbps	4 m	/	AWG26	/
SFP-25G-DAC-P5M	25Gbps	5 m	/	AWG26	/

Notes:

- 1. Customized 25G SFP28 cables are available in various lengths.
- 2. The Wire Gauge is available in AWG24, AWG26, AWG28, and AWG30 for customized need.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Farailleter	Syllibol	IVIIII	IVIAX	Ullit	140162



Maximum Supply Voltage	Vcc	-0.5	4.0	V	
Storage Temperature	Ts	-40	85	°C	
Operating Humidity	RH	5	95	%	

High Speed Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Note
Differential Impedance	TDR	90	100	110	Ω	
Insertion loss	SDD21	-22.48			dB	At 12.8906 GHz
Differential Return Loss	SDD11			See 1	dB	At 0.05 to 4.1 GHz
Differential Return Loss	SDD22			See 2	dB	At 4.1 to 19 GHz
Common-mode to common-mode output return loss	SCC11 SCC22			-2	dB	At 0.2 to 19 GHz
Differential to common-mode return loss	SCD11 SCD22			See 3	dB	At 0.01 to 12.89 GHz
return loss				See 4		At 12.89 to 19 GHz
Differential to the second of	SCD21-IL			-10		At 0.01 to 12.89 GHz
Differential to common Mode Conversion Loss				See 5	dB	At 12.89 to 15.7 GHz
				-6.3		At 15.7 to 19 GHz

Notes:

- 1. Reflection Coefficient given by equation SDD11(dB) < -16.5 + 2 × SQRT(f), with f in GHz
- 2. Reflection Coefficient given by equation SDD11(dB) < -10.66 + 14 × log10(f/5.5), with f in GHz
 3. Reflection Coefficient given by equation SCD11(dB) < -22 + (20/25.78)*f, with f in GHz
 4. Reflection Coefficient given by equation SCD11(dB) < -15 + (6/25.78)*f, with f in GHz

- 5. Reflection Coefficient given by equation SCD21(dB) < -27 + (29/22)*f, with f in GHz

Cable Specifications

Parameter	Symbol	Min.	Тур.	Max.	Unit	Notes
Cable Diameter	DIA		6.0		mm	AWG 24
			5.2		mm	AWG 26
			4.7		mm	AWG 28
			4.5		mm	AWG 30
Bend Radius		5x Cable Diameter			mm	
Cable Jacket Type		PVC				
Cable Impedance	Z	90	100	110	Ω	
Cable Time delay	Td		4.5		ns/m	

Pin Definitions

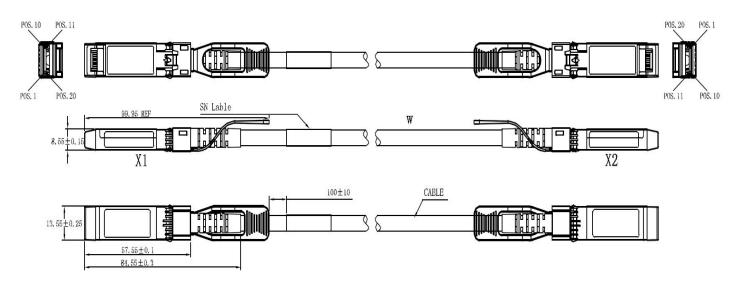


Pin	Logic	Symbol	Name/Description	Note
1		VEET	Transmitter Ground	
2	LV-TTL-O	Tx_FAULT	Transmitter fault	1
3	LV-TTL-I	Tx_DIS	Transmitter Disable. Laser output disabled on high or open	2
4	LV-TTL-I/O	SDA	2-wire Serial Interface Data Line	
5	LV-TTL-I	SCL	2-wire Serial Interface Clock Line	
6		MOD_ABS	Module Absent. Grounded within the module	
7	LV-TTL-I	RS0	Rate select 0	1
8	LV-TTL-O	RX_LOS	Loss of Signal indication. Logic 0 indicates normal operation	2
9	LV-TTL-I	RS1	No connection required	1
10		VEER	Receiver Ground	
11		VEER	Receiver Ground	
12	CML-O	RD-	Receiver Inverted DATA out. AC Coupled	
13	CML-O	RD+	Receiver DATA out. AC Coupled	
14		VEER	Receiver Ground	
15		VCCR	Receiver Power Supply	
16		VCCT	Transmitter Power Supply	
17		VEET	Transmitter Ground	
18	CML-I	TD+	Transmitter DATA in. AC Coupled	
19	CML_I	TD-	Transmitter Inverted DATA in. AC Coupled	
20		VEET	Transmitter Ground	

Notes:

- 1. Signals not supported in SFP28 Copper pulled-down to VeeT with 30K ohms resistor
- 2. Passive cable assemblies do not support LOS and TX_DIS

Mechanical Dimensions







Process plug

The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles. It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

Handling Precautions

The transceiver optics is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety

The transceiver optics is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

For more product information, visit us on the web at www.optcore.net



DS/VER211103/EN Copyright © 2021 Optcore Technology Co.,Ltd. All rights reserved. Optcore, Optcore logo are registered trademarks of Optcore Technology Co.,Ltd. All other brands, product names, or trademarks mentioned are the property of their respective owners. Specifications and product availability are subject to change without notice. Optcore assumes no responsibility for inaccuracies contained herein.

