

25G SFP28 Direct Attach Passive Copper Cables GPP-PC250-xxxxC

Features

- Data rate up to 25.78125Gbps
- Length up to 5m
- 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
- Power consumption <0.1 W
- Operating case temperature range 0°C to +70°C
- RoHS-6 compliant (lead free)



Applications

- High capacity I/O in Storage Area Networks, Network Attached Storage, and Storage Servers
- Switched fabric I/O such as ultra high bandwidth switches and routers
- Data center cabling infrastructure
- High density connections between networking equipment

Product Description

The SFP28 direct attach passive copper cable assemblies are a high-performance and cost-effective I/O solution for 25G Ethernet applications. The SFP28 copper cables allow hardware manufacturers to achieve high port density, configurability and utilization at a very low cost and reduced power budget. The high speed cable assemblies meet and exceed 25G Ethernet industry standard requirements for performance and reliability.

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	T _c	0		+70	°C
Power Supply Voltage	V _{CC3}	3.14	3.3	3.47	V
Power consumption				0.1	W
Data Rate Per Lane		1		25.78	Gb/s

High Speed Characteristics

Parameter	Symbo	Min	Typical	Ma	Unit	Note
Differential Impedance	R _{IN,P-P}	90		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
	SDD22			See 2	dB	At 4.1 to 19 GHz
Common-mode to common-mode output return loss	SCC11	2			dB	At 0.2 to 19 GHz
	SCC22					
Differential to common-mode return loss	SCD11			See 3	dB	At 0.01 to 12.89
	SCD22			See		At 12.89 to 19 GHz
Differential to common Mode Conversion Loss	SCD21			10	dB	At 0.01 to 12.89
				See 5		At 12.89 to 15.7
				6.3		At 15.7 to 19 GHz
Channel Operating Margin	COM	3			dB	

Notes:

1. Reflection Coefficient given by equation $SDD11(dB) < 16.5 - 2 \times \text{SQRT}(f)$, with f in GHz
2. Reflection Coefficient given by equation $SDD11(dB) < 10.66 - 14 \times \log_{10}(f/5.5)$, with f in GHz
3. Reflection Coefficient given by equation $SCD11(dB) < 22 - (20/25.78) \times f$, with f in GHz
4. Reflection Coefficient given by equation $SCD11(dB) < 15 - (6/25.78) \times f$, with f in GHz
5. Reflection Coefficient given by equation $SCD21(dB) < 27 - (29/22) \times f$, with f in GHz

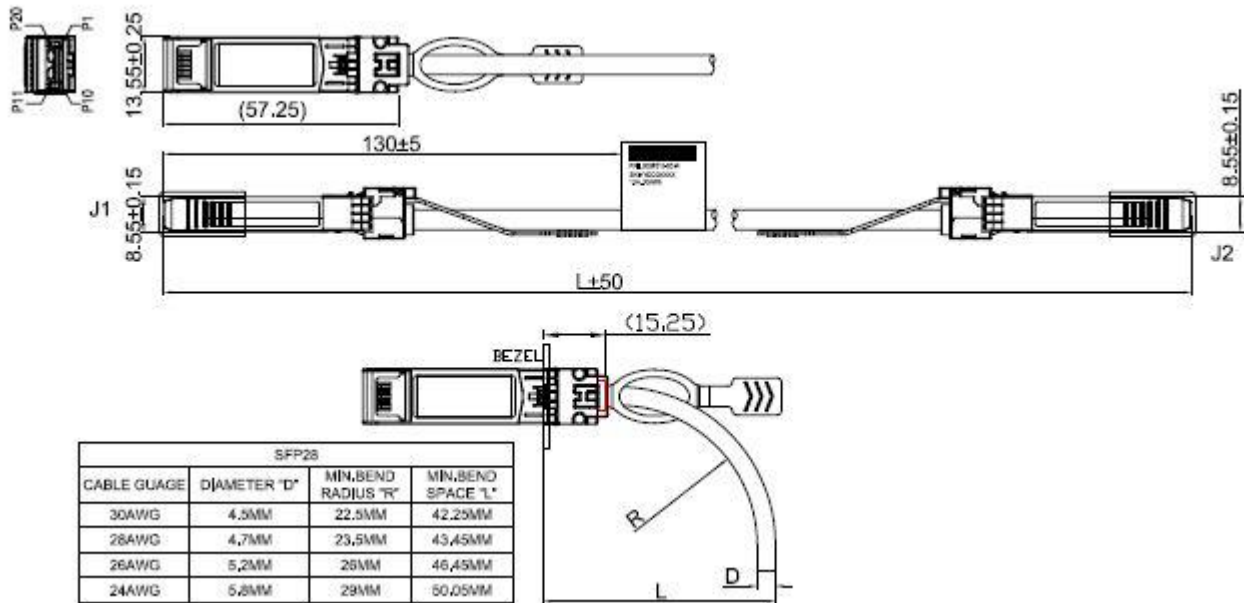
Pin Descriptions

Pin	Logic	Symbol	Name/Description	Notes
1		VeeT	Transmitter Ground	
2	LV-TTL-O	TX_Fault	N/A	1
3	LV-TTL-I	TX_DIS	Transmitter Disable	2
4	LV-TTL-I/O	SDA	Tow Wire Serial Data	
5	LV-TTL-I	SCL	Tow Wire Serial Clock	
6		MOD_DEF0	Module present, connect to VeeT	
7	LV-TTL-I	RS0	N/A	1
8	LV-TTL-O	LOS	LOS of Signal	2
9	LV-TTL-I	RS1	N/A	1
10		VeeR	Reciever Ground	
11		VeeR	Reciever Ground	
12	CML-O	RD-	Reciever Data Inverted	
13	CML-O	RD+	Reciever Data Non-Inverted	
14		VeeR	Reciever Ground	
15		VccR	Reciever Supply 3.3V	
16		VccT	Transmitter Supply 3.3V	
17		VeeT	Transmitter Ground	
18	CML-I	TD+	Transmitter Data Non-Inverted	
19	CML_I	TD-	Transmitter Data Inverted	
20		VeeT	Transmitter Ground	

1. Signals not supported in SFP+ Copper pulled-down to VeeT with 30K ohms resistor

2. Passive cable assemblies do not support LOS and TX_DIS

Mechanical Dimensions



Ordering information

Part Number	GPP-PC250-xxxxC				
Length (meter)	1	2	3	4	5
American Wire Gauge (AWG)	30	30	26	26	26

Note: diameter and distance can be customized.

Example:

GPP-PC250-3001C: AWG30, 1 meter;

GPP-PC250-2603C: AWG26, 3 meters;

GPP-PC250-2605C: AWG26, 5 meters.



Important Notice

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Revision History

Version	Date	Description
V0	Agu-2017	New release