

## 50G SFP56 Direct Attach Passive Copper Cable

### Features

- Up to 56Gb/s (Support 28GBaud/s PAM4)
- Up to 3 meter transmission
- Hot-pluggable SFP20PIN footprint
- Improved Pluggable Form Factor(IPF) compliant for enhanced EMI/EMC performance
- Compatible to SFP28 MSA and SFF-8432
- Compatible to IEEE802.3cd
- Power consumption  $\leq 0.1$  W
- Temperature Range: 0~ 70 °C
- RoHS Compatible

### Applications

- 50G/25G Ethernet
- Data storage and communication industry
- Switch / router / HBA
- Enterprise network
- SAN
- Data Center Network

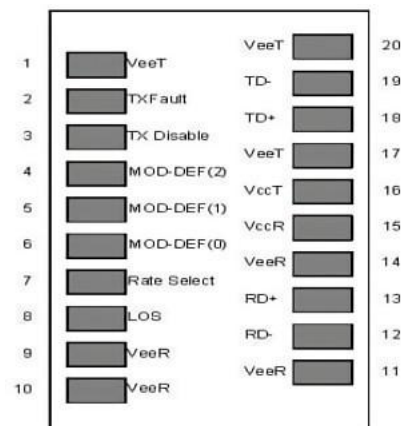
## Description

The SFP56 passive cable assemblies are high performance, cost effective I/O solutions for 50G Ethernet. SFP56 copper cables allow hardware manufactures to achieve high port density, configurability and utilization at a very low cost and reduced power budget.

## Recommended Operating Conditions

Table1-Recommended Operating Conditions						
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Storage Ambient Temperature		-40		+85	C	
Operating Case Temperature	Tc	0		+70	C	
Power Supply Voltage	VCC3	3.14	3.3	3.47	V	
Power consumption				0.1	W	
Data Rate Per Lane		1		28	GBaud/s	

## PCB Contact Configure (SFF-MSA Compliance)



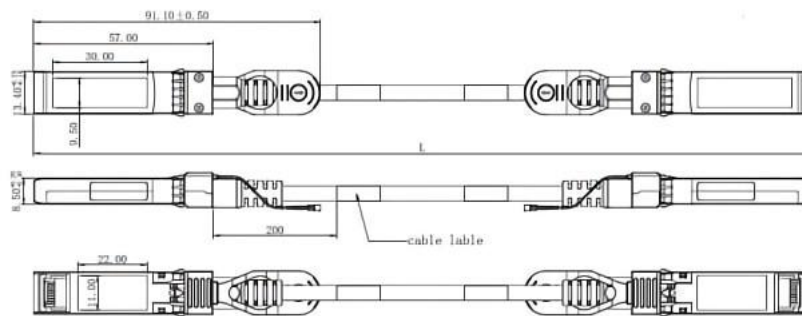
## Performance and Test Description

A	Time domain parameter	Test condition	Spec		Equipment
1	Differential Impedance(bulk cable)	TDR Tr:25ps	100+10/-5 ohms		E5071C
2	Differential Impedance (Mated connector)		100+/- 10 ohms		
3	Differential Impedance(cable termination)		100+10/- 15 ohms		
4	Intra-skew		L*15+20	L: length(m) SPEC: ps	
B	Frequency domain parameter	Test condition	Test spec(dB)	f(GHz)	
1	SDD11/SD D22	Freq:50MHz ~20GHz Points:1601	-22+20/25.78*f*10^[-3]  - 10.66+ 14*log([(f*10^[-3 ])/5.5])  ≤5 3dB@ 13 26GHz	0.05≤f≤4. 1  4. 1≤f≤19	E5071C
2	SCC11/SC C22	Freq:50MHz ~20GHz Points:1601	≤-2dB	0.2≤f≤19	
3	SDC11/SD C22	Freq:50MHz ~20GHz Points:1601	- 16+2*f/3	0.05≤f≤2	
5	SCD21- SDD21	Freq:50MHz ~20GHz Points:1601	10 as 0.01≤f ≤12.89 -27+29/22*f*0.001 as 12.89≤f≤15.7  6.3 as 15.7≤f≤19	0.01≤f≤19	
6	MDNEXT	Freq:50MHz ~20GHz Points:1601	≤-26dB@12.89GHz	0.01≤f≤19	
7	SDD21	Freq:50MHz ~20GHz Points:1601 IF: 1KHz	-0.7*[f*10^[-3]]^0.5-0.3 *[f*10^[-3]]-0.01*[f*10^[-3]]^2  ≤17. 16dB@ 13.26GHz	0.01≤f≤19	

## Test Requirements and Methods

Test Items	Specification	Test Method
Thermal shock	5 cycles of a) - 10C for 30 minutes b) +70C for 30 minutes	EIA-364-32C.Test condition I
Temperature Life	Subject mated Specimens to +70C for 500 hours	EIA-364- 17 method A, Test condition II, Test time condition C.
Humidity and Temperature cycling	Subject unmated specimens to 10 cycles ( 10 days) between 25 and 65oC at 80 to 100% RH	EIA-364-31 Method III,Test condition A
Mixed Flowing Gas	Subject specimens to environmental Class IIA for 7 days unmated, and 7 days mated.	EIA-364-65, Class IIA

## Mechanical Specifications



## Regulatory Compliance

Test Items	Specification
Electrical Safety	EN 62368- 1: 2014
	IEC 62368- 1:2014
	UL 62368- 1:2014
Environmental protection	Directive 2011/65/EU with amendment(EU)2015/863
CE EMC	EN55032: 2015
	EN55035: 2017
	EN61000-3-2:2014
	EN61000-3-3:2013
FCC	FCC Part 15, Subpart B; ANSI C63.4-2014

## Ordering information

Test Items			
Length (meter)	1	2	3
Wire gauge (AWG)	30	30	26

## Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by GIGALIGHT before they become applicable to any particular order or contract. In accordance with the GIGALIGHT policy of continuous improvement specifications may change without notice.

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## Further Information:

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