PSFP56-Tx Passive Copper Direct-Attach Cable

Features

- Up to 56Gb/s (Support 28GBaud/s PAM4)
- Lower Power Consumption for Single Module < 0.1W
- Up to 3 meter transmission
- Hot-pluggable SFP 20PIN footprint
- Power Supply: +3.3V
- Improved Pluggable Form Factor(IPF) compliant for enhanced EMI/EMC performance
- Compatible to SFP28 MSA and SFF-8432
- Compatible to IEEE802.3cd
- Temperature Range: 0~ 70℃
- RoHS 6 Compliant

Applications

- 50G/25G Ethernet
- Infiniband QDR/FDR/EDR/HDR
- Data Storage and Communication
- SAN
- Data Center Network

Description

PeakOptical PSFP56-Tx Copper SFP56 Cables are high-performance, cost-effective alternatives to fiber optics in Ethernet applications. The 50G SFP56 PCC cable contain 2 high-speed copper pairs, operating at data rate up to 53Gb/s.

Each SFP56 port comprises an EEPROM providing product information, which can be read by the host system. PeakOptical unique quality Passive Copper Cable (PCC) solutions provide power-efficient connectivity for short-distance interconnects. It enables higher port bandwidth, density and configurability at low cost and reduced power requirement in the data center. Rigorous cable production testing ensures best out-of-the-box installation experience, performance and durability.

Regulatory Compliance

Feature	Standard	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883G Method 3015.7	Class 1C (>1000V)
Electrostatic Discharge to the enclosure	EN 55024:1998+A1+A2 IEC-61000-4-2 GR-1089-CORE	Compliant with standards
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN55022:2006 CISPR 22B :2006 VCCI Class B	Compliant with standards Noise frequency range: 30MHz to 6GHz. Good system EMI design practice required to achieve Class B margins. System margins are dependent on customer host board and chassis design.
Immunity	EN 55024:1998+A1+A2 IEC 61000-4-3	Compliant with standards. 1KHz sine-wave, 80% AM, from 80MHz to 1GHz. No effect on transmitter/receiver performance is detectable between these limits.
Component Recognition	UL and CUL EN60950-1:2006	UL file E881358 TüV Certificate No. 20665109 (CB scheme)
RoHS6	2002/95/EC 4.1&4.2 2005/747/EC 5&7&13	Compliant with standards*note3

Note3: For update of the equipments and strictly control of raw materials, PeakOptical has the ability to supply the customized products since Jan 1, 2007, which meet the requirements of RoHS6 (Restrictions on use of certain Hazardous Substances) of European Union.
In light of item 5 in RoHS exemption list of RoHS Directive 2002/95/EC, Item 5: Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.

In light of item 13 in RoHS exemption list of RoHS Directive 2005/747/EC, Item13: Lead and cadmium in optical and filter glass. The three exemptions are being concerned for PeakOptical's transceivers, because PeakOptical's transceivers use glass, which may contain Pb, for components such as lenses, windows, isolators, and other electronic components.

Absolute Maximum Ratings*[Note2]

Parameter	Symbol	Min	Typ	Max	Units
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	T_S	-40		85	℃

Note2: Exceeding any one of these values may destroy the device immediately.

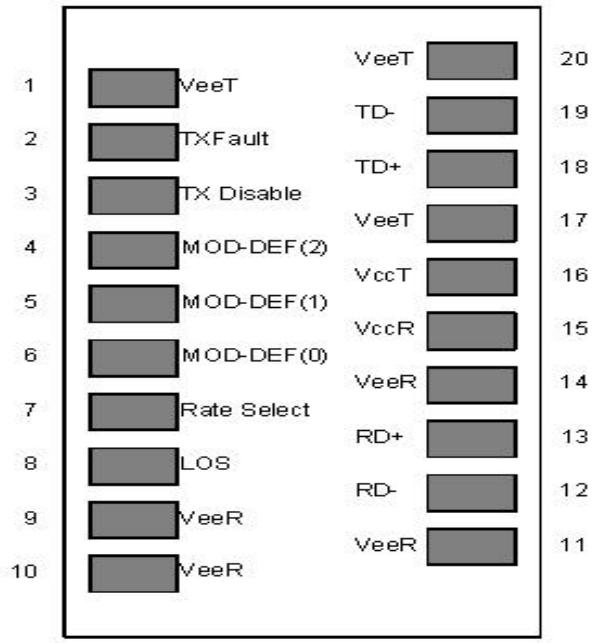
Normal operating condition

Parameter	Symbol	Min	Typ	Max	Units	Notes
Operating Case Temperature	Tc	0		70	℃	
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Consumption	P			0.1	W	
Data Rate(per channel)				28.05	Gbps	

Performance Specifications – Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter Differential Input Voltage	V_{IN}	500	-	1200	mV_{pp}	
Impedance	Zcable	90	100	110	Ohms	

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)	0.05≤f<4.1	E5071C
			-10.66+14*log((f*10^(-3))/5.5) ≤5.3dB@13.26GHz	4.1≤f≤19	
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	

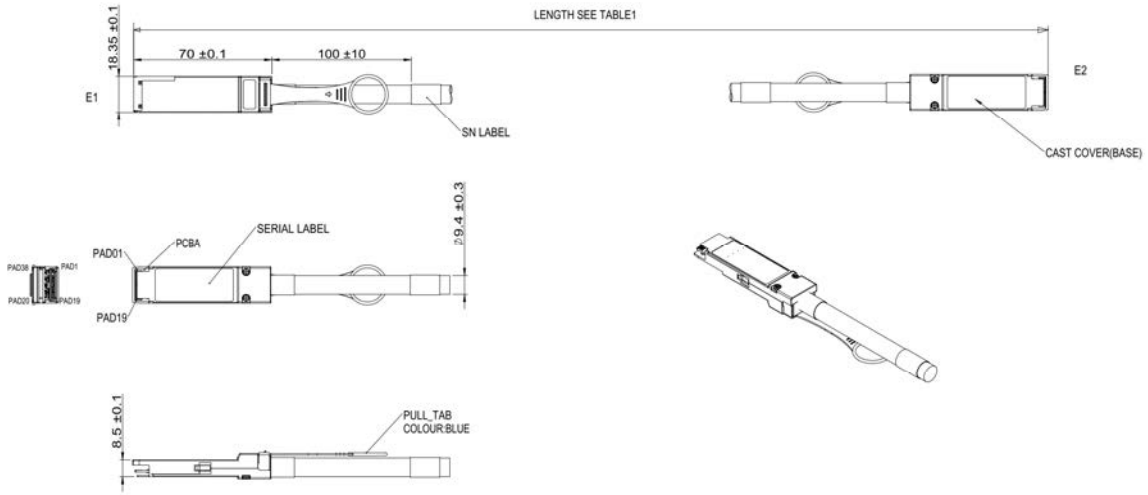
Test Requirements and Methods

Test Items	Specification	Test Method
Thermal shock	5 cycles of a) -10℃ for 30 minutes b) +70℃ for 30 minutes	EIA-364-32C.Test condition Ⅰ
Temperature Life	Subject mated Specimens to +70℃ for 500 hours	EIA-364-17 method A, Test condition II, Test time condition C.

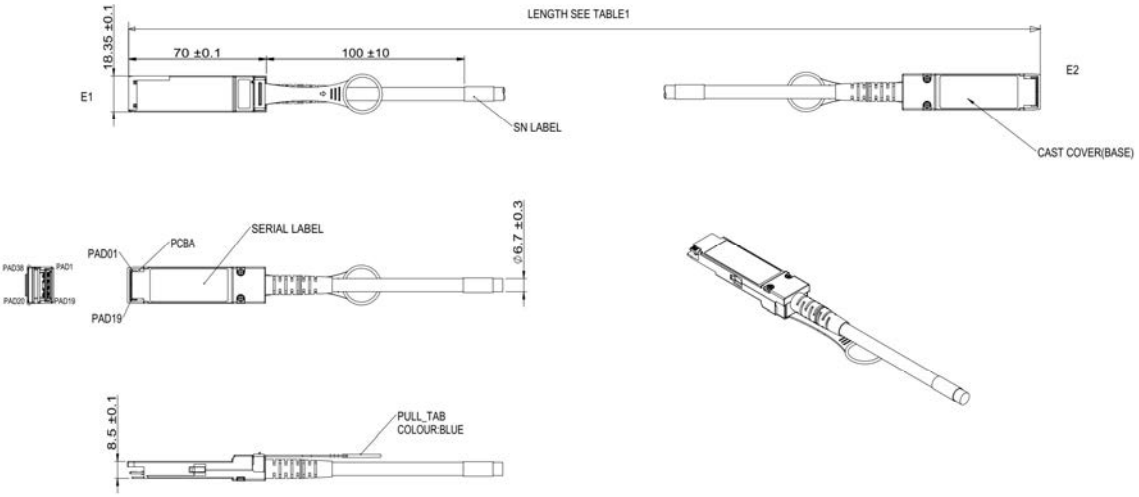
Humidity and Temperature cycling	Subject unmated specimens to 10 cycles (10 days) between 25 and 65oC at 80 to 100% RH	EIA-364-31 Method Ⅲ,Test condition A
Mixed Flowing Gas	Subject specimens to environmental Class IIA for 7 days unmated, and 7 days mated.	EIA-364-65, Class IIA

Mechanical Specifications

26AWG



30AWG



Ordering information

Part Number	Product Description
PSFP56-Tx	50G SFP56 Direct Attach Passive Cable, 1~3m, 26/30 AWG, 0 ~ +70℃
Tx means	1=1m, 2=2m, 3=3m

Notice:

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