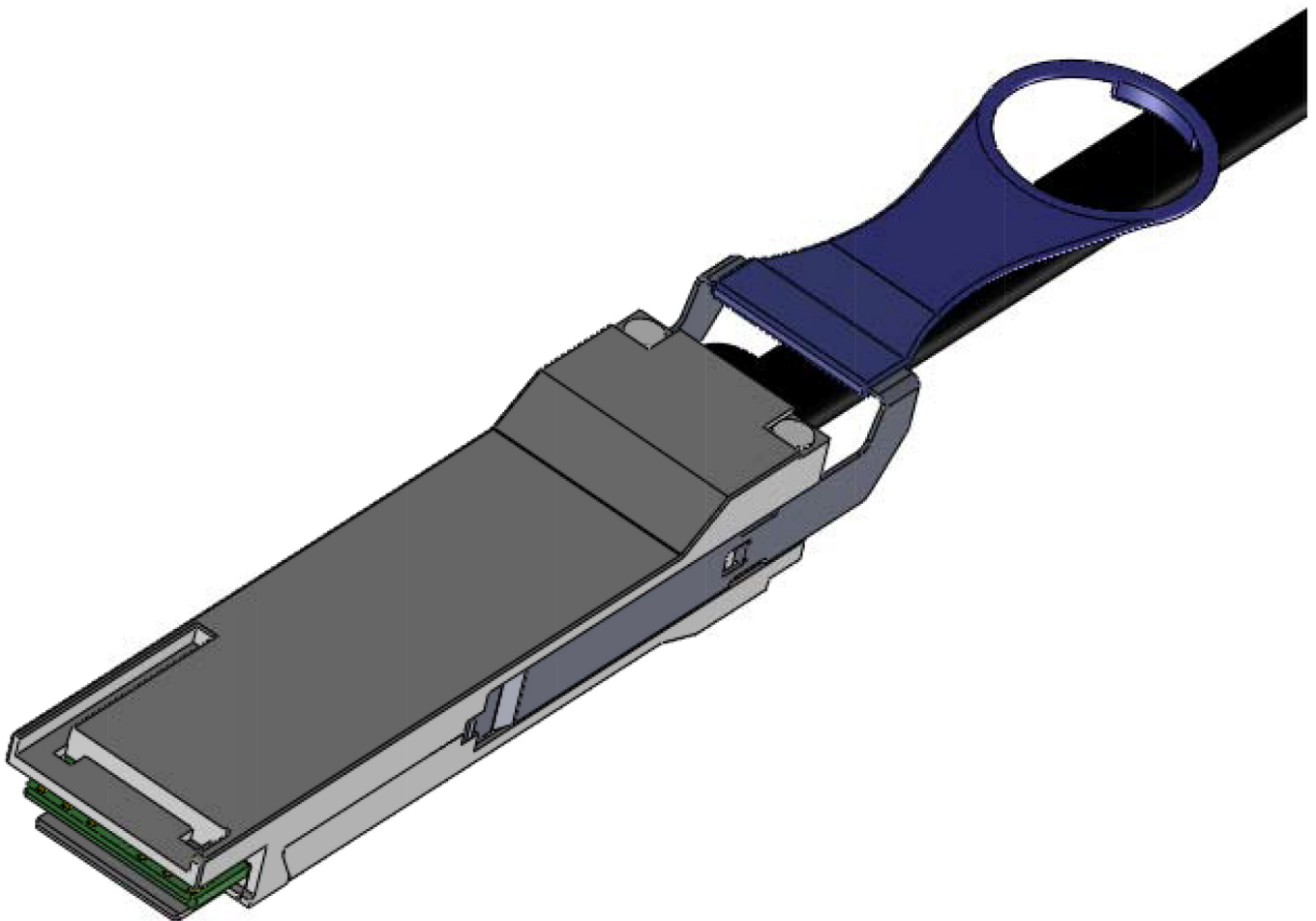


# **QSFP+ FDR(14G Quad Small Form-Factor Pluggable) (QSFP14) 56Gb/s Direct Attached Copper Cable Assemblies**



### 1 PRODUCT DESCRIPTION

The Quad Small Form-factor Pluggable Plus (hereafter referred to as QSFP+) solution is designed for high-density applications. The hot-pluggable transceiver integrates 4 transmitting and 4 receiving channels. These QSFP+ cable assemblies can replace four standard SFP+ cable assemblies. This results in higher port density, more cost effectiveness and reduce power budget as compared to standard SFP+ cable assemblies.

These QSFP+ cable assemblies are designed to accommodate standard and ganged connector configurations in demanding high-density requirements. Our QSFP+ cable assemblies are high performance, high bandwidth and cost effective interconnect solutions which support 14G Ethernet, Fiber Channel, InfiniBand, SAS and SONET/SDH standards with different data rate applications.

### 2 APPLICABLE INDUSTRY DOCUMENTS

The following documents, of the latest issues in effect at the time of performance of the qualification tests, shall form a part of this specification to the extent specified herewith.

Document Number	Title
EIA-364	EIA Standard
UL 94	"Tests for Flammability of Plastic Materials for Parts in Devices and Appliances." Underwriters Laboratories, Inc.
EIA-364-1000.01	"Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Business Office Applications"
SFP Multi-Source Agreement	"Physical Specifications of SFP"
QSFP Multi-Source Agreement	"Physical Specifications of QSFP"
SFF-8685	QSFP+ 4X 14 Gb/s Pluggable Transceiver Solution (QSFP14)
IBTA EDR	Infini Band Enhanced Data Rate(FDR) 14G per channel Standard and Applications

### 3 SPECIFICATIONS

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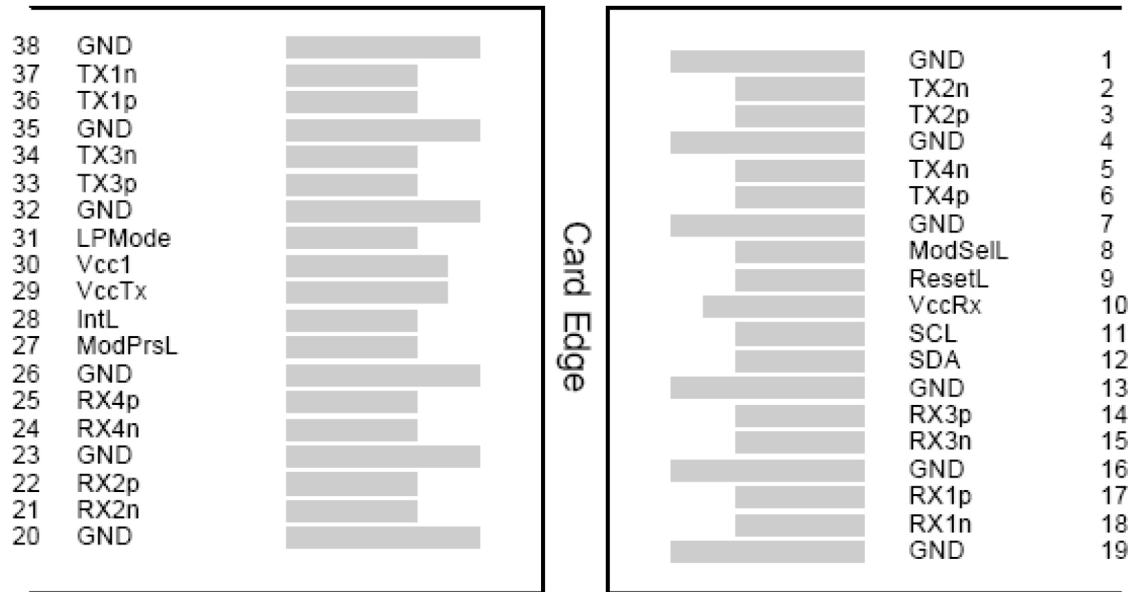
## SODA-56G-P1M Cable

### 3.1 Material

#### 3.1.1 Backshell

Zinc alloy. Nickel plated over all 100u" Min.

#### 3.1.2 PCB Contact Configuration



#### 3.1.3 PCB Contact Plating

100 u" min. nickel underplate over all

30 u" min. gold over nickel at contact area

100u" min tin over nickel at soldering area

#### 3.1.4 Raw Cable

High Speed cable, 8 pairs, 100 +/- 5 ohms



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# PRODUCT SPECIFICATION

## SODA-56G-P1M Cable

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Date: 17 Mar 2015

PS-QSFP+FDR

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### 3.2 Ratings

Item	Specification
Voltage	30VAC
Current	0.5A/Contact
Operating Temperature	-40℃ to 80℃

### 3.3 Electrical

Item	Specification
Low Level Contact Resistance	Initial: Baseline, with 75mm cable from the backshell edge. Change : 20 milliohms maximum
Insulation Resistance	300VDC , 1000Mohm(Min.)
Dielectric Withstanding Voltage	AC 350V 1min, no breakdown or flash



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# PRODUCT SPECIFICATION

## SODA-56G-P1M Cable

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### 3.4 Signal Integrity

A	Time domain parameter	Test condition	SPEC		Equipment
1	Diff.impedance	Tr:100ps	100+/-10ohms		N5071C or DSA8300
2	Intra-skew		L*15+20	L:length(m)	
				SPEC:ps	
B	Frequency domain parameter	Test condition	Test spec(dB)	f(GHz)	
1	SDD11/SDD22	Freq:50MHz~20GHz Points:1601 IF: 1KHz	- 12 + 1.71 f	0.05≤f<5.6	N5071C
			-6.7+13*log10(f/5.5)	5.6≤f≤15	
2	SCC11/SCC22	Freq:50MHz~20GHz Points:1601 IF: 1KHz	≤-2dB	0.2 ≤ f ≤ 14.1	
4	SDD21	Freq:50MHz~20GHz Points:1601 IF: 1KHz	-15dB Max		

### 3.5 Mechanical

Item	Specification
Mating Force	40N Max. With retention latch disengaged.
Un-mating Force	30N Max. With retention latch disengaged.
Latch retention force	90N Min.
Durability	250 cycles

### 3.6 Environmental

Item	Specification
Physical shock	Subject mated specimens to 30G's half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks
Vibration (random)	Subject mated specimens to 3.10G's rms between 20-500 Hz for 15 minutes in each of 3 mutually perpendicular planes
Thermal shock	100 cycles of: a) -55°C for 30 minutes b) +80°C for 30 minutes
Temperature Life	Subject mated Specimens to +105°C for 500 hours
Humidity and Temperature cycling	Subject unmated specimens to 10 cycles (10 days) between 25 and 65°C at 80% to 100% RH
Mixed Flowing Gas	Subject specimens to environmental EIA-364-65, Class IIA for 7 days unmated, and 7 days mated.
Visual Examination.	Connectors & contacts shall have no evidence of physical defects or otherwise unfit for testing.



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# PRODUCT SPECIFICATION

## SODA-56G-P1M Cable

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### 4 PRODUCT OFFERING

Product Category	Gauge	Length Range
Passive QSFP+	24AWG or 25AWG	5M-7M
	26AWG	4M-6M
	28AWG	2M-5M
	30AWG	0.5M-3M

#### Notes:

The 24AWG cable is outstanding designed for specified cable brand.

T.B.D means to be designed and tested by individual cases and conditions.

Please contact us for customized products not listed in the above table.