56G QSFP+ Direct Attach Cable TSQS-PC56G-xxM

General Description

QSFP+ Direct Attach Cables are compliant with the SFF-8436 specifications. Various choices of wire gauge are available from 30 to 26 AWG with various choices of cable length (up to 5m).

Features

- Up to 56Gbps data rate per channel
- Up to 5m transmission
- Hot-pluggable QSFP+ 38 PIN footprint
- Compatible to SFF-8436
- Single 3.3V power supply
- Temperature Range: 0 °C to 70 °C
- RoHS compliant

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Applications

- InfiniBand FDR
- Low EMI radiation switches, servers and routers
- · Data center networks
- Storage area networks
- · High performance computing
- Telecommunication and wireless infrastructure
- Medical diagnostics and networking
- Test and measurement equipment

Recommended Operation Condition

Parameter	Symbol	Min	Мах	Unit
Operating Case Temperature	Торс	0	70	degC
Storage Temperature	Tst	-40	85	degC
Relative Humidity (non-condensation)	RS	35	60	%
Supply Voltage	VCC3	3.135	3.465	٧
Total Power Consumption	Pd	-	0.02	W

Notes:

Stress or conditions exceed the above range may cause permanent damage to the device.



This is a stress rating only and functional operation of the device at these or any other conditions above those listed in the operational sections of this specification is not applied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Pin Definition

Pin	Symbol	Name/Description	
1	GND	Ground	
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	Vcc Rx	+3.3 V Power supply receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	Vcc Tx	+3.3 V Power supply transmitter	

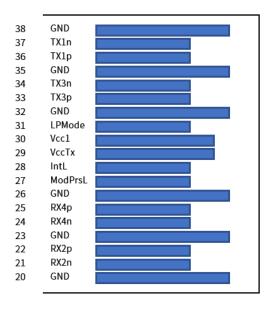
Information and specifications are subject to change without notice. Please visit www.china-tscom.com for more information



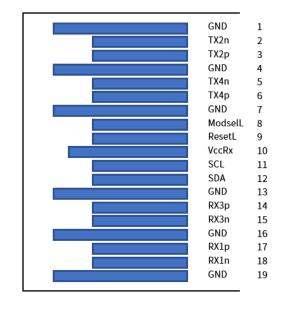
30	Vcc1	+3.3 V Power Supply	
31	LPMode	Low Power Mode	
32	GND	Ground	
33	Тх3р	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	

Module Card Edge

Pin Descriptions







Bottom Side Viewed From Bottom

General Product Characteristics

QSFP+ DAC Specifications			
Number of Lanes	Tx & Rx		
Channel Data Rate	10.3125 Gbps		
Operating Temperature	0°C to 70°C		
Storage Temperature	-40°C to 85°C		
Supply Voltage	3.3 V nominal		
Electrical Interface	38 pins edge connector		

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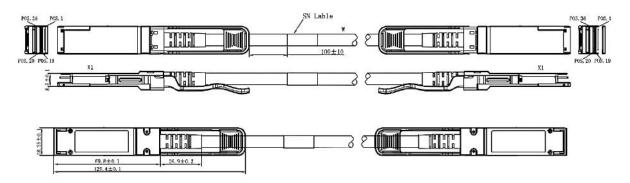
Management Interface	Serial, I ² C

High Speed Characteristics

Parameter	Symbol	Min	Тур	Мах	Units	Notes
Differential Impedance	Zd	90	100	110	Ω	-
Differential Input Return Loss	CDDVV	<-12+2* \$	SQRT (f) with	QRT (f) with f in GHz		0.01~4.1GHz
	SDDXX	<-6.3+13*	<-6.3+13*log ₁₀ f/5.5 with f in GHz dB			
Common Mode Output Return Loss	CCCVV	<-7+1.	dB	0.01~2.5GHz		
	SCCXX	-	-	-3	dB	0.01~2.5GHz 2.5~11.1GHz
Difference Waveform Distortion	dWDPc	-	-	6.75	dB	-
VMA Loss	L	-	-	4.4	dB	-
VMA Loss to Crosstalk Ratio	VCR	32.5	-	-	dB	-

Mechanical Dimensions

The connector is compatible with the SFF-8436 specification.



Length (m)	Cable AWG
1	30
3	30
5	26
7	26



T&S Communications Co., Ltd. 5/5

Ordering Information

56G QSFP+ Copper Cable Assemblies, Passive.

P/N	Length	Data Rate	AWG	Length Tolerance
TSQS-PC56G-01M	1M	56G	30	+3.5/-3.5cm
TSQS-PC56G -02M	2M	56G	30	+3.5/-3.5cm
TSQS-PC56G -03M	3M	56G	28/30	+4/-4cm
TSQS-PC56G -04M	3M	56G	26	+4/-4cm
TSQS-PC56G -05M	3M	56G	26	+4/-4cm

