



**LI-0040-xxxD-C/LI-QSFP+DAC-CIS-xxx**

**LinkIT DAC QSFP+ 40Gbps xm Cisco, Passive, xxAWG**

## **PRODUCT FEATURES**

- Compliant with SFF- 8436
- Up to 10.3125Gbps data rate per channel
- Up to 7m transmission
- Operating temperature: 0°C to +70°C
- Single 3.3V power supply
- RoHS compliant

## **APPLICATIONS**

- Servers
- Networked storage systems
- Routers
- External storage systems
- Data Center networking



## Product Description

QSFP+ Direct Attach Cables are compliant with the SFF-8436 specifications. Various choices of wire gauge are available from 30 to 24 AWG with various choices of cable length (up to 7m).

## Ordering Information

Product	Description	Cable Length (m)	AWG
LinkIT DAC QSFP+ 40Gbps 1m Cisco	QSFP+ to QSFP+	1	30
LinkIT DAC QSFP+ 40Gbps 2m Cisco	QSFP+ to QSFP+	2	30
LinkIT DAC QSFP+ 40Gbps 3m Cisco	QSFP+ to QSFP+	3	30
LinkIT DAC QSFP+ 40Gbps 4m Cisco	QSFP+ to QSFP+	4	26
LinkIT DAC QSFP+ 40Gbps 5m Cisco	QSFP+ to QSFP+	5	26
LinkIT DAC QSFP+ 40Gbps 6m Cisco	QSFP+ to QSFP+	6	26
LinkIT DAC QSFP+ 40Gbps 7m Cisco	QSFP+ to QSFP+	7	26

Note: You can be customized diameter and distance.

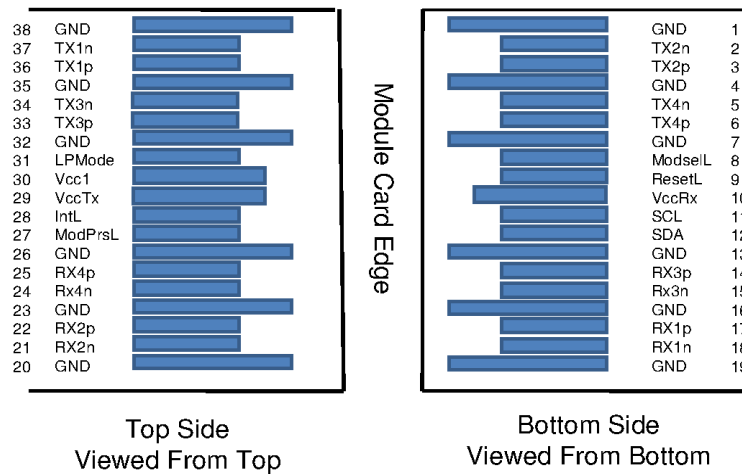
### I. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Note
Storage Temperature	Tst	-40	125	degC	
Relative Humidity (non-condensation)	RS	-	85	%	
Operating Case Temperature	Topc	-40	85	degC	1
Supply Voltage	VCC3	-0.3	3.6	V	
Voltage on LVTTTL Input	Vilvttl	-0.3	VCC3 +0.2	V	

### II. Recommended Operating Conditions

Parameter	Symbol	Min	Max	Unit
Operating Case Temperature	Topc	-40	85	degC
Relative Humidity (non-condensation)	RS	-	85	%
Supply Voltage	VCC3	3.135	3.465	V
Power Supply Current	ICC3	750	-	mA
Total Power Consumption	Pd	-	2.0	W

### III. Pin Assignments



### IV. Pin Definitions

Pin	Logic	Symbol	Description
1		GND	Ground
2	CML-I	Tx2n	Transmitter Inverted Data Input
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input
4		GND	Ground
5	CML-I	Tx4n	Transmitter Inverted Data Input
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input
7		GND	Ground
8	LVTTL-I	ModSelL	Module Select
9	LVTTL-I	ResetL	Module Reset
10		Vcc Rx	+3.3V Power Supply Receiver
11	LVC MOS-I/O	SCL	2-wire serial interface clock
12	LVC MOS-I/O	SDA	2-wire serial interface data
13		GND	Ground
14	CML-O	Rx3p	Receiver Non-Inverted Data Output
15	CML-O	Rx3n	Receiver Inverted Data Output
16		GND	Ground
17	CML-O	Rx1p	Receiver Non-Inverted Data Output
18	CML-O	Rx1n	Receiver Inverted Data Output
19		GND	Ground
20		GND	Ground
21	CML-O	Rx2n	Receiver Inverted Data Output

22	CML-O	Rx2p	Receiver Non-Inverted Data Output
23		GND	Ground
24	CML-O	Rx4n	Receiver Inverted Data Output
25	CML-O	Rx4p	Receiver Non-Inverted Data Output
26		GND	Ground
27	LVTTL-O	ModPrsL	Module Present
28	LVTTL-O	IntL	Interrupt
29		Vcc Tx	+3.3V Power supply transmitter
30		Vcc1	+3.3V Power supply
31	LVTTL-I	LPMODE	Low Power Mode
32		GND	Ground
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input
34	CML-I	Tx3n	Transmitter Inverted Data Input
35		GND	Ground
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input
37	CML-I	Tx1n	Transmitter Inverted Data Input
38		GND	Ground

## V. Product Characteristics

Number of Lanes	Tx & Rx
Channel Data Rate	10.3125 Gbps
Operating Temperature	0 to + 70°C
Storage Temperature	-40 to + 85°C
Supply Voltage	3.3 V nominal
Electrical Interface	38 pins edge connector
Management Interface	Serial, I2C

## VI. High Speed Characteristics

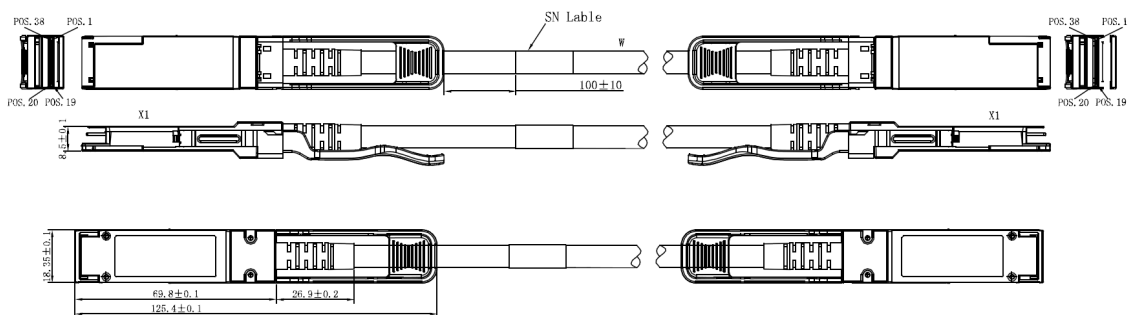
Parameter	Symbol	Min	Typical	Max	Unit	Note
Differential Impedance	TDR	90	100	110	Ω	
Insertion loss	SDD21	-17.04			dB	At 5.15625 GHz
Differential Return Loss	SDD11			See 1	dB	At 0.05 to 4.1 GHz
	SDD22			See 2	dB	At 4.1 to 11.1 GHz
Differential to common-mode return loss	SCD11 SCD22			-10	dB	At 0.2 to 11.1 GHz

Common-mode to common-mode output return loss	SCC11 SCC22	-3	dB	At 0.01 to 11.1 GHz
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Notes:

1. Reflection Coefficient given by equation  $SDD11(dB) < -12 + 2 \times \text{SQRT}(f)$ , with f in GHz
2. Reflection Coefficient given by equation  $SDD11(dB) < -6.3 + 13 \times \log_{10}(f/5.5)$ , with f in GHz

## VII. Mechanical Diagram



## Revision History

Version No.	Date	Description
1.0	June 24, 2021	Preliminary datasheet

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Norway.