

DQE-2500-XXXG

(RoHS Compliant)

100G QSFP+ Direct Attach Cable (DAC)

FEATURES

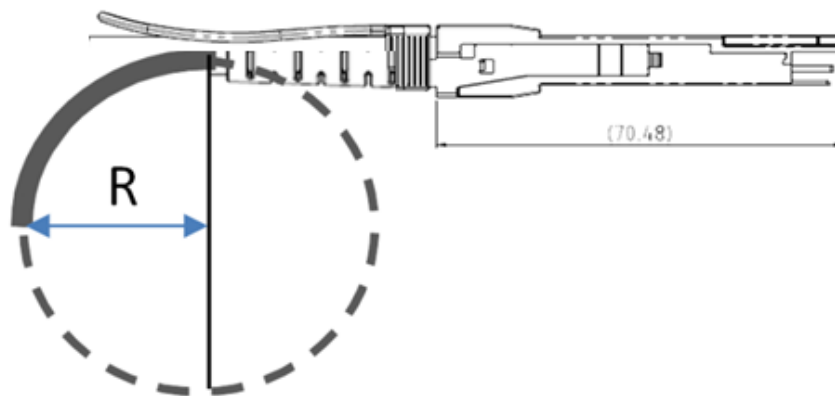
- QSFP DAC offer a High Cost Effective Link
- 4 Channels up to 25 to 28Gbps Per Lane
- Link length 1 to 3 meters
- Hot-Pluggable Interface
- Low Power Consumption
- Complaint with SFF-8436, SFF-8665 and IEEE 802.3bj
- EMI performance match FCC class B
- BER better than 10^{-12}
- Storage, Network, Server, NIC, Switch

DESCRIPTION

DQE-2500-XXXG series QSFP+ DAC is a high-speed solution with cost-effective design which can extend to 1~3m. 100Gbps DAC cable is compatible with 100G Ethernet (100GbE), Fiber Channel, InfiniBand applications..

APPLICATIONS

- 100Gbps QSFP + DAC



ORDER INFORMATION

P/No.	Length	Nominal OD	Min. Bend Radius	Notes
DQE-2500-001G	1.0m (3.3ft)	30AWG / 6.1mm	ODx5	28Gbps
DQE-2500-002G	2.0m (6.6ft)	30AWG / 6.1mm	ODx5	28Gbps

Absolute Maximum Ratings					
Parameter	Symbol	Min	Max	Units	Notes
Storage Temperature	Tstg	-20	75	°C	
Operating Case Temperature	Topr	-20	75	°C	
Relative Humidity	RH	5	85	%	Non condensing
Power Supply Voltage	V _{CC}	-0.5	3.6	V	

Recommended Operating Conditions					
Parameter	Symbol	Min	Typ	Max	Units / Notes
Power Supply Voltage	V _{CC}	2.95	3.3	3.6	V
Power Supply Current	I _{CC}	1	1	3	mA / Per end
Power Consumption	P _D		3.3	20	mW / Per end @3.3V
Data Rate		1	28		Gbps / 28Gbps model
BER			< 10 ⁻¹²		Err/bits

Electrical Characteristics						
Parameter	Symbol	Min	Typ	Max	Units	Notes
Copper Cable Length						
AWG30		0.5		1	m	
AWG26		0.5		3	m	
Cable differential impedance		95	100	105	ohm	
Cable Performance						
Data Rate		1	28		Gbps	28Gbps model
Insertion Loss at 12.8906GHz	SDD21		22.48		dB	1, spec as Figure 1.1
Return Loss at 12.8906GHz	SDD11	6			dB	2, spec as Figure 1.2
Differential to Common Mode Return Loss	SCD11					3, spec as Figure 1.3
Differential to Common Mode Conversion Loss	SCD21					4, spec as Figure 1.4
Common Mode to Common Mode Return Loss	SCC11	-2				5, spec as Figure 1.5
Module						
Total Power Supply Current	I _{cc}	1	2	6	mA	

1. Base on IEEE Std 802.3bj-2014 page 189 92.10.2
2. Base on IEEE Std 802.3bj-2014 page 190 92.10.3
3. Base on IEEE Std 802.3bj-2014 page 191 92.10.4
4. Base on IEEE Std 802.3bj-2014 page 191 92.10.5
5. Base on IEEE Std 802.3bj-2014 page 192 92.10.6

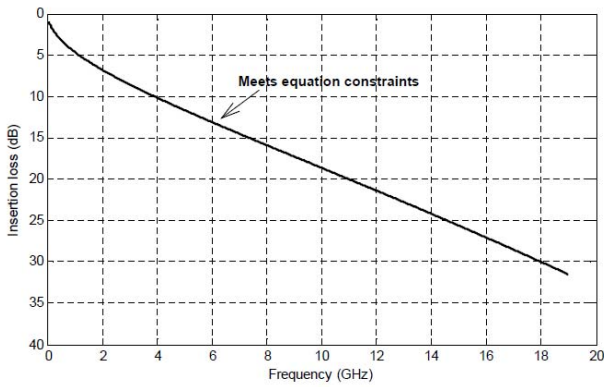


Figure 1.1 SDD21 specification

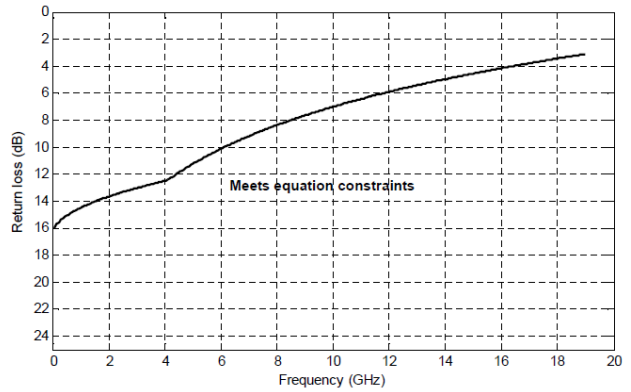


Figure 1.2 SDD11 specification

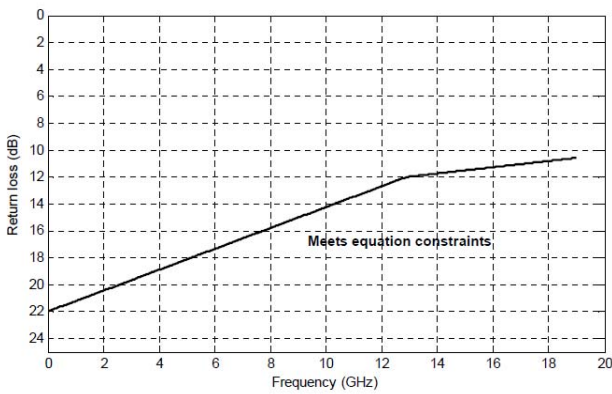


Figure 1.3 SCD11 specification

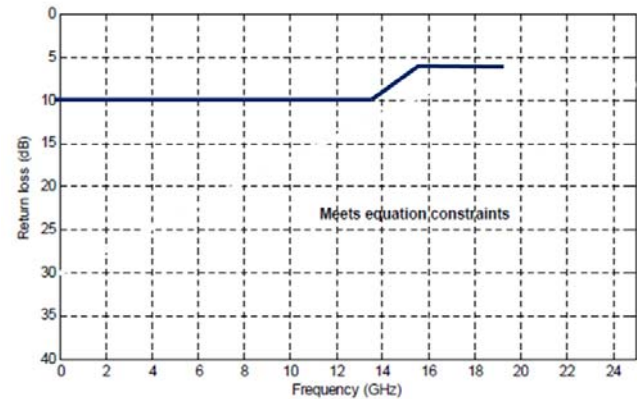


Figure 1.4 SCD21 specification

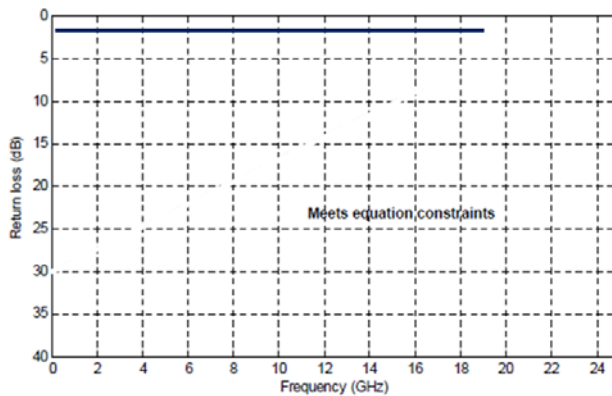


Figure 1.5 SCC11 specification

CONNECTION DIAGRAM

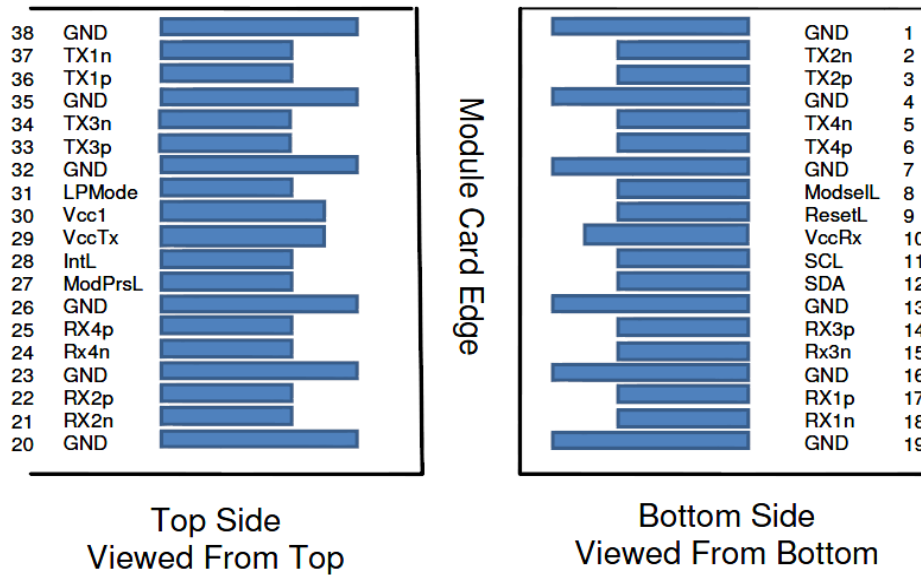


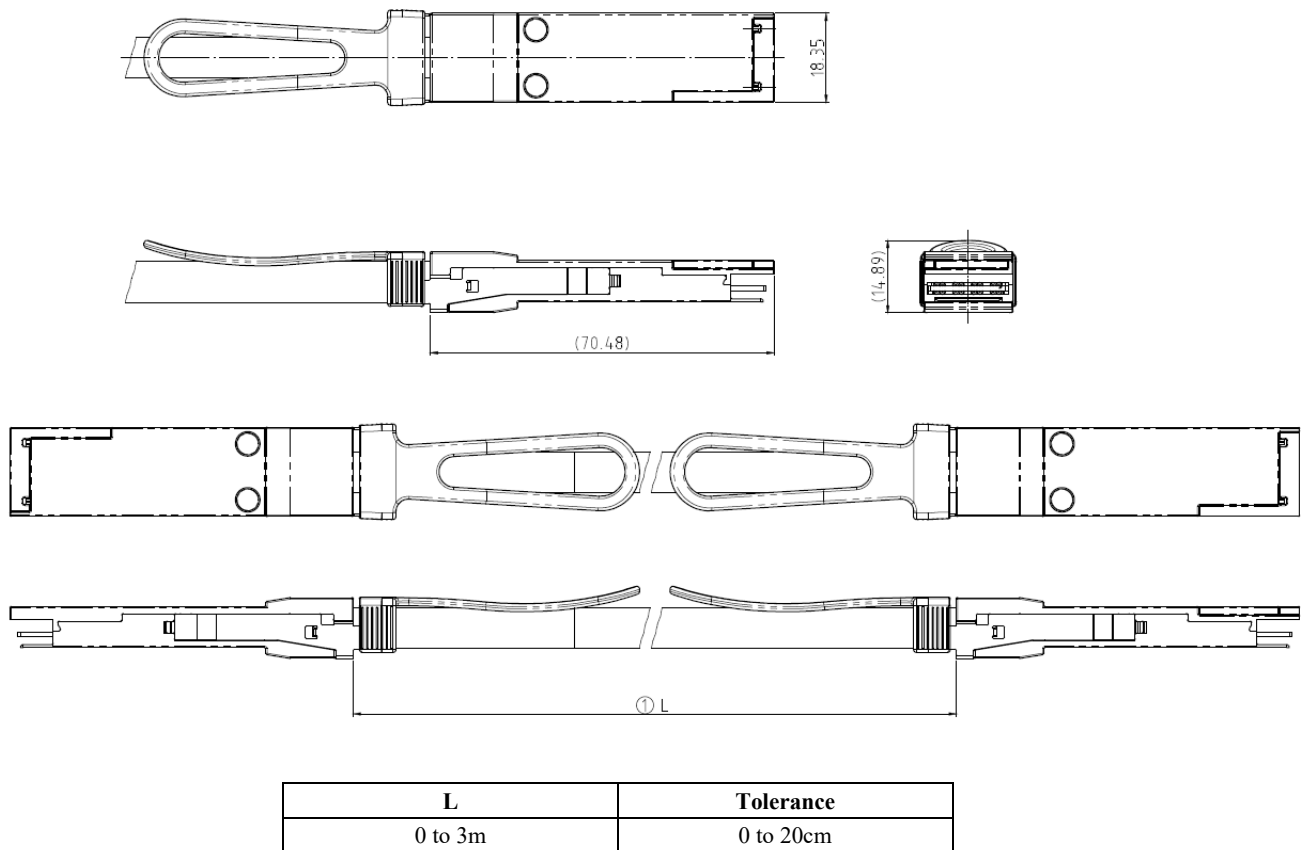
Table 1 PIN Description

PIN	Logic	Signal Name	Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		Vcc Rx	+3.3V Power Supply Receiver	2
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	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	
18	CML-O	Rx1n	Receiver Inverted Data Output	
19		GND	Ground	1
20		GND	Ground	1
21	CML-O	Rx2n	Receiver Inverted Data Output	
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	
23		GND	Ground	1
24	CML-O	Rx4n	Receiver Inverted Data Output	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	
26		GND	Ground	1
27	LVTTL-O	ModPrsL	Module Present	
28	LVTTL-O	IntL	Interrupt	
29		Vcc Tx	+3.3V Power supply transmitter	2
30		Vcc1	+3.3V Power supply	2
31	LVTTL-I	LPMode	Low Power Mode	
32		GND	Ground	1

33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	
34	CML-I	Tx3n	Transmitter Inverted Data Input	
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	
37	CML-I	Tx1n	Transmitter Inverted Data Input	
38		GND	Ground	1

1. Module ground pins GND are isolated from the module case and chassis ground within the module.
2. Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP+ module in any combination.

MECHANICAL SPECIFICATION (UNITS IN MM)



Note: Specifications subject to change without notice.

REVISION HISTORY

Version	Subject	Release Date
1.0	Initial datasheet	2017/4/6