40Gbps QSFP to 10G SFP+ Converter

DO-QSFP-SFP10G

Overview

The QSFP+ to SFP+ Adapter (QSA) Module offers 10 Gigabit Ethernet connectivity
for Quad Small Form-Factor Pluggable (QSFP)-only platforms. It allows smooth and cost effective migration to 40 Gigabit Ethernet by providing an option to use lower-speed Enhanced Small Form-Factor Pluggable (SFP+) modules in empty QSFP ports or when the other end of the network is running at lower speeds.

QSA Module converts a QSFP port into an SFP+ port. With this adapter, customers have the flexibility to use any SFP+ module or cable to connect to a lower-speed port on the other end of the network. This flexibility allows a cost-effective transition to 40Gigabit Ethernet by maximizing the use of high-density 40 Gigabit Ethernet QSFP platforms.
This adapter supports all SFP+ optics and cable reaches. Compatible Switch Models and SFP+ Modules.

Features

- Trouble-free installation and network bring-up
- Compliant to industry standards :QSFP+ MSA SFF-8436 / SFP+ MSA SFF-8431
- Precision process control for minimization of pair-to-pair skew
- 1 independent duplex channels operating at 10Gbps/2.5Gbps/5Gbps
- All-metal housing for superior EMI performance
- 100 ohm differential impedance system
- Operating case temperature: -20 to 85℃
- Built-in digital diagnostic functions
- Low insertion loss
- Low crosstalk
- Secure latching mechanism
- RoHS compliant

Applications

- Data Servers/Routers/Switches
- Networked storage systems
- Data Center networking
- InfiniBand Trade Association (IBTA)
- IEEE-802.3ba
- MSA SFF-8431

Ordering Information

Part Number	Product Description
DO-QSFP-SFP10G	40G QSFP+ to 10G SFP+ Converter Module

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Supply Voltage	Vcc	3.15	3.3	3.45	V
Operating Case temperature	Tca	-20		85	ºC
Storage Temperature	Tst	-40		125	ºC
Humidity	Rh	0		85	%

SFP+ Transceiver Modules

Part Number	Product Description
SFP-10G-SR	10GBASE-SR SFP+ Module for Multimode Fiber
SFP-10G-LR	10GBASE-SR SFP+ Module for Multimode Fiber
SFP-10G-ER	10GBASE-LR SFP+ Module for Single-Mode Fiber
SFP-10G-ZR	10GBASE-ZR SFP+ Module for Single-Mode Fiber
10G SFP+ Copper Cables	SFP+ Copper Cables (1m to 10m lengths)
10G SFP+ Active Optical Cables	SFP+ Active Optical Cables (1m to 10m lengths)

Pin Descriptions

Pin	Logic	Symbol	Name/Description	Ref.
1		GND	Module Ground	1
2	CML-I	Tx2-	Transmitter inverted data input	
3	CML-I	Tx2+	Transmitter non-inverted data input	
4		GND	Module Ground	1
5	CML-I	Tx4-	Transmitter inverted data input	
6	CML-I	Tx4+	Transmitter non-inverted data input	
7		GND	Module Ground	1
8	LVTTL-I	MODSEIL	Module Select	2
9	LVTTL-I	ResetL	Module Reset	2
10		VCCRx	+3.3v Receiver Power Supply	
11	LVCMOS-I	SCL	2-wire Serial interface clock	2
12	LVCMOS-I/O	SDA	2-wire Serial interface data	2
13		GND	Module Ground	1
14	CML-O	RX3+	Receiver non-inverted data output	
15	CML-O	RX3-	Receiver inverted data output	
16		GND	Module Ground	1
17	CML-O	RX1+	Receiver non-inverted data output	
18	CML-O	RX1-	Receiver inverted data output	
19		GND	Module Ground	1
20		GND	Module Ground	1
21	CML-O	RX2-	Receiver inverted data output	

22	CML-O	RX2+	Receiver non-inverted data output	
23		GND	Module Ground	1
24	CML-O	RX4-	Receiver inverted data output	
25	CML-O	RX4+	Receiver non-inverted data output	
26		GND	Module Ground	1
27	LVTTL-O	ModPrsL	Module Present, internal pulled down to GND	
28	LVTTL-O	IntL	Interrupt output, should be pulled up on host board	2
29		VCCTx	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPMode	Low Power Mode	2
32		GND	Module Ground	1
33	CML-I	Tx3+	Transmitter non-inverted data input	
34	CML-I	Tx3-	Transmitter inverted data input	
35		GND	Module Ground	1
36	CML-I	Tx1+	Transmitter non-inverted data input	
37	CML-I	Tx1-	Transmitter inverted data input	
38		GND	Module Ground	1

Notes:
1. Module circuit ground is isolated from module chassis ground within the module.
2. Open collector; should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15Vand 3.6V.

MSA compliant Connector

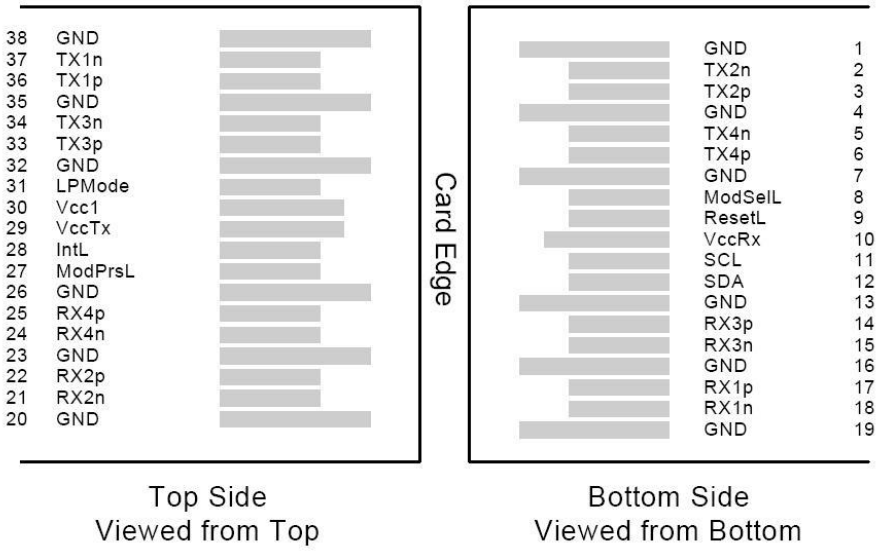

Figure1. Electrical Pin-out Details

Mechanical Dimensions

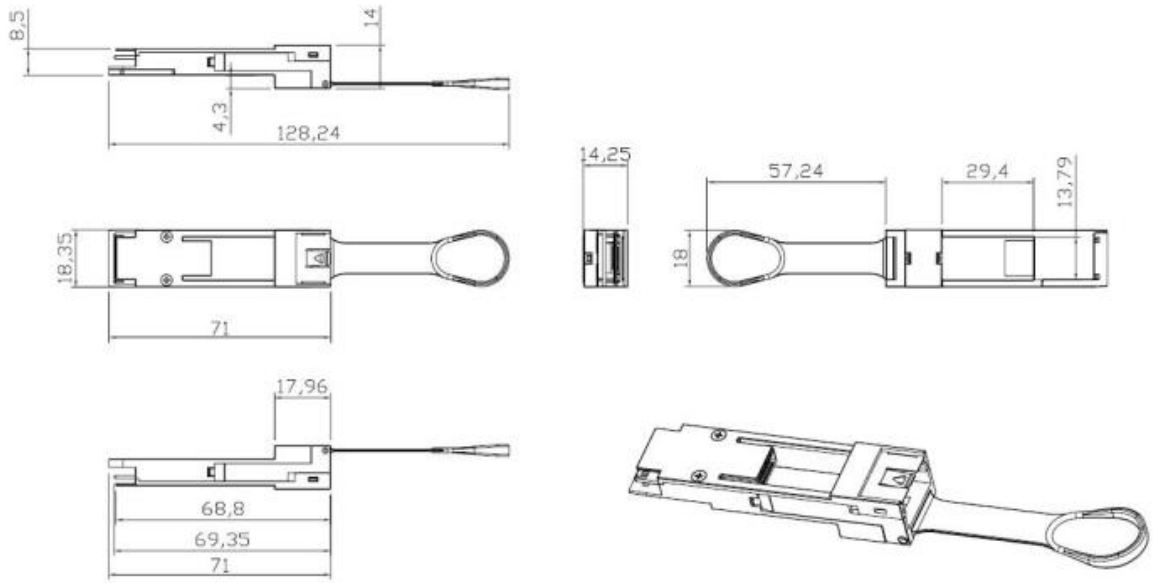

Figure2. Mechanical Specifications