

# SPT-QSFP-SFP+-C

## Optical Communication System

### 40Gbps QSFP+ to SFP+ Converter Module



#### 40Gbps QSFP+ to SFP+ Converter Module

- 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°C
- 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)

- EEE - 802.3ba
- MSA SFF - 8431

## General Description

The SOPTO QSFP+ to SFP+ Adapter (QSA) Module offers 10 Gigabit Ethernet connectivity for Quad Small Form - Factor Plug gable (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 Plug gable (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.

## SFP+ Transceiver Modules

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

## Recommended Operating Conditions

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		VCCR <sub>x</sub>	+3.3v Receiver Power Supply	
11	LVC MOS - I	SCL	2 - wire Serial interface clock	2
12	LVC MOS - 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		VCCT <sub>x</sub>	+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.

Open collector; should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15V and 3.6V.

### MSA compliant Connector

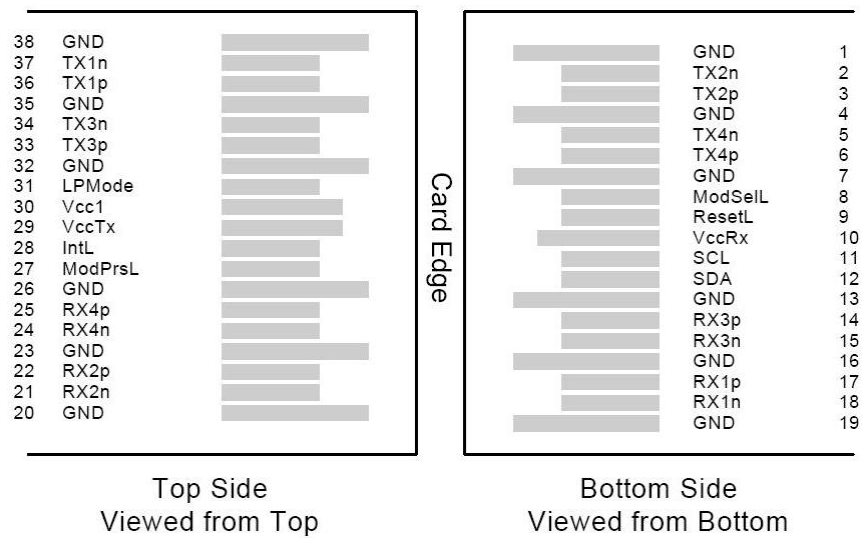


Figure1. Electrical Pin - out Details

### Mechanical Dimensions

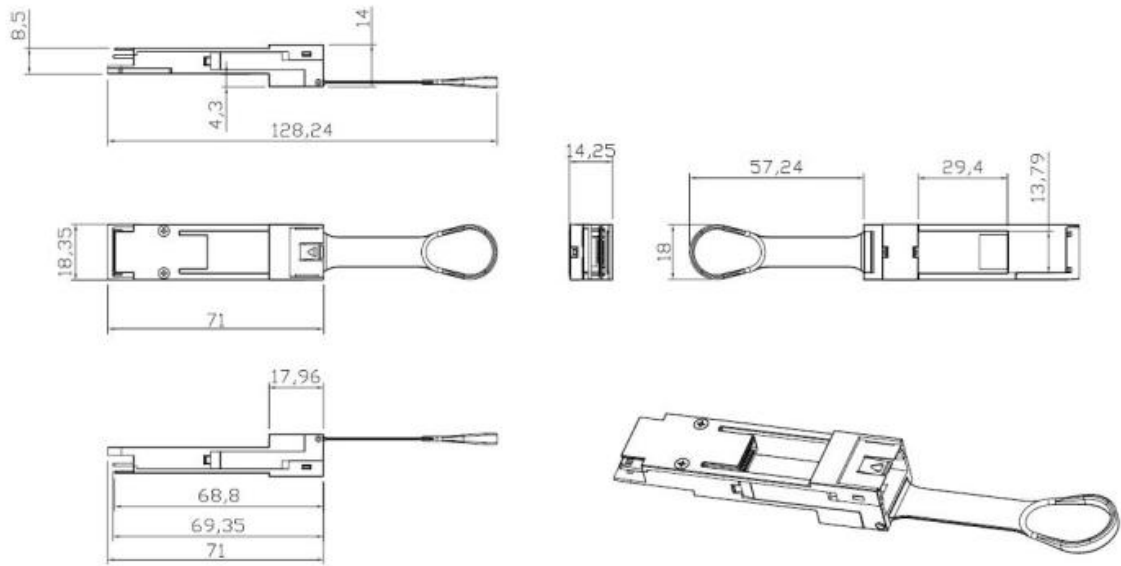
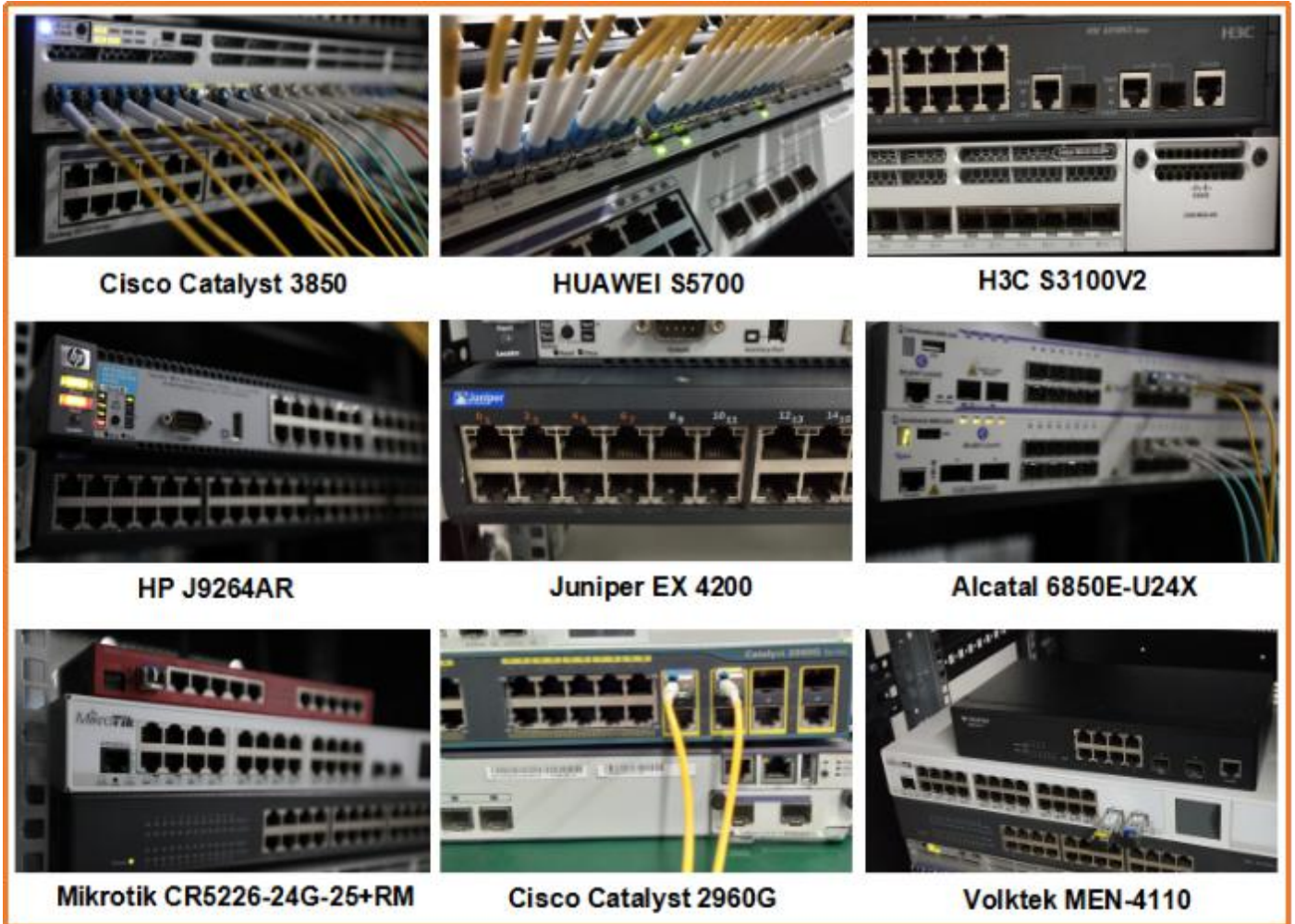


Figure2. Mechanical Specifications

### Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can compatible with many mainstream brand switches, such as Cisco, Juniper, Extreme, Brocade, IBM, H3C, HP, Huawei, D-Link, Mikrotik, ZTE, TP-Link...

Our test equipment: VOLKTEK MEN-4110, HP 2530-8G, CRS226-24G-25+RM, Catalyst 2960G Series, Catalyst 3850 XS 10G SFP+, Catalyst 3750-E Series, HUAWEI S5700Series, H3C S3100V2 Series, Juniper-EX4200,etc



## Ordering Information

P/N	Description
SPT-QSFP-SFP+-C	Converter module, 40Gbps QSFP+ to SFP+ Commercial Temperature

Note: If you need more customized services, please contact us.

E-mail: [info@sopto.com.cn](mailto:info@sopto.com.cn)

Web : <http://www.sopto.com.cn>