

**ETU-LINK**

Optical Communication System

**QSFP28 Series**

## QSFP28

### EQ2S22X-CVR

#### 100Gbps QSFP28 to 25G SFP28 Converter

- 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 25Gbps/10Gbps/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

- Telecommunication and wireless infrastructure
- Low EMI radiation Switches, servers and routers
- Networked storage systems
- Data Center networking
- Test and measurement equipment
- IEEE-802.3ba
- MSA SFF-8431
- 25G Ethernet

## General Description

The 100G QSFP28 to 25G SFP28 Adapter (QSA) Module offers 25 Gigabit Ethernet connectivity for Quad Small Form-Factor Pluggable (QSFP28)-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 (SFP28) modules in empty QSFP28 ports or when the other end of the network is running at lower speeds.

QSA Module converts a QSFP28 port into an SFP28 port. With this adapter, customers have the flexibility to use any SFP28 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 100Gigabit Ethernet by maximizing the use of high-density 40 Gigabit Ethernet QSFP28 platforms.

This adapter supports all SFP28 optics and cable reaches. Compatible Switch Models and SFP28 Modules.

## Ordering Information

Part Number	Product Description
EQ2S22X-CVR	100G QSFP28 to 25G SFP28 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	°C
Storage Temperature	Tst	-40		125	°C
Humidity	Rh	0		85	%

## SFP28 Transceiver Modules

Part Number	Product Description
ES2852X-3LCD01	25GBASE-SR SFP28 Module for Multimode Fiber
ES2312X-3LCD10	25GBASE-LR SFP28 Module for Single mode Fiber
ES2DP2X-330CNxx	SFP28 Copper Cables (1m to 10m lengths)
ES2A2X-33CDxx	SFP28 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	LVTTTL-I	MODSEIL	Module Select	
9	LVTTTL-I	ResetL	Module Reset	
10		VCCRx	+3.3v Receiver Power Supply	2
11	LVC MOS-I	SCL	2-wire Serial interface clock	
12	LVC MOS-I/O	SDA	2-wire Serial interface data	
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	LVTTTL-O	ModPrsL	Module Present, internal pulled down to GND	
28	LVTTTL-O	IntL	Interrupt output, should be pulled up on host board	2
29		VCCTx	+3.3v Transmitter Power Supply	2
30		VCC1	+3.3v Power Supply	
31	LVTTTL-I	LPMode	Low Power Mode	
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

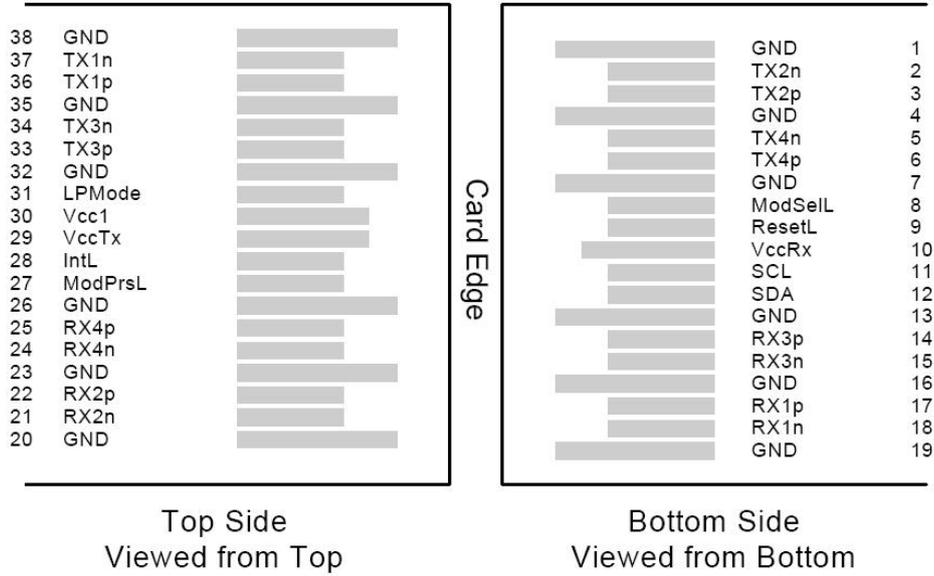
### Notes:

1. GND is the symbol for signal and supply (power) common for QSFP modules. All are common within the QSFP module and all module voltages are referenced to this potential otherwise noted. Connect these directly to the host board signal common ground

plane

2. cc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power suppliers and shall be applied concurrently. Recommended host board power supply filtering is shown below. Vcc Rx, Vcc1 and Vcc Tx may be internally connected within the QSFP transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

## MSA compliant Connector



## Mechanical Dimensions

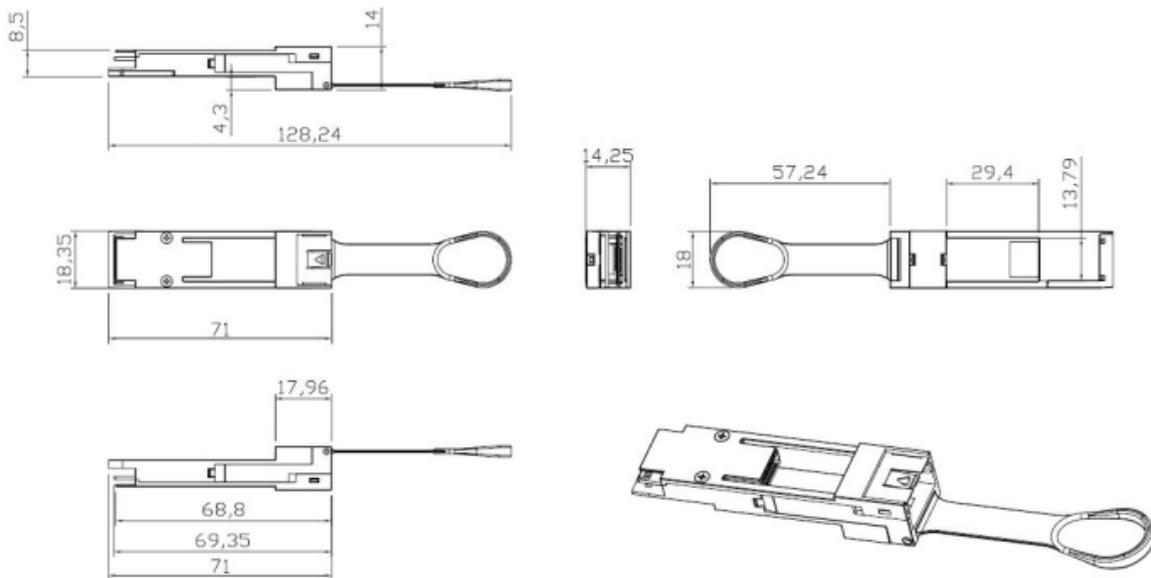


Figure2. Mechanical Specifications

## Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can be 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.



**Cisco Catalyst 3850**



**HUAWEI S5700**



**H3C S3100V2**



**HP J9264AR**



**Juniper EX 4200**



**Alcatel 6850E-U24X**



**Mikrotik CR5226-24G-25+RM**



**Cisco Catalyst 2960G**



**Volktek MEN-4110**

## Quality Assurance

Continuous introduction of new equipment, produced by strict standards, strict quality inspection, to guarantee the high quality standard of each product.



**Standardized  
Production Line**



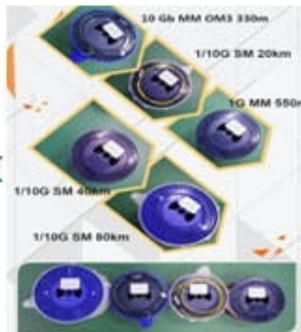
**Professional  
Welding**



**Assembling**



**Aging Testing**



**Distance Testing**



**Cleaning end face**



**Product Initial Test**



**Switch Testing**



**Product Final Test**

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