

## DATE SHEET

### MODULETEK: CVR-QSFP-SFP-10G-D10

QSFP 40G to SFP 10G Adapter (QSA) Module

### Product Overview

ModuleTek's QSA module is used to connect a QSFP port and an SFP port. The module connects Channel 1 of the QSFP electrical interface to the built-in SFP port and supports one SFP module connection. Channels 2, 3, and 4 of the QSFP electrical interface are not used. The module can be used for interconnecting 40G QSFP+ devices with 10G SFP+ devices.

### Product Features

- Complies with SFF-8665 standard
- Complies with SFF-8432 standard
- Channel, supports SFP 10G module
- Low insertion loss
- Complies with ROHS standard

### Applications

- QSFP-equipped server and switch devices
- QSFP-equipped test and measurement devices



## Order Information

Model	Description
CVR-QSFP-SFP-10G-D10	QSFP 40G to SFP 10G Adapter (QSA) module
<b>For More Information:</b> ModuleTek Limited Web: <a href="http://www.moduletek.com">www.moduletek.com</a> Email: sales@moduletek.com	

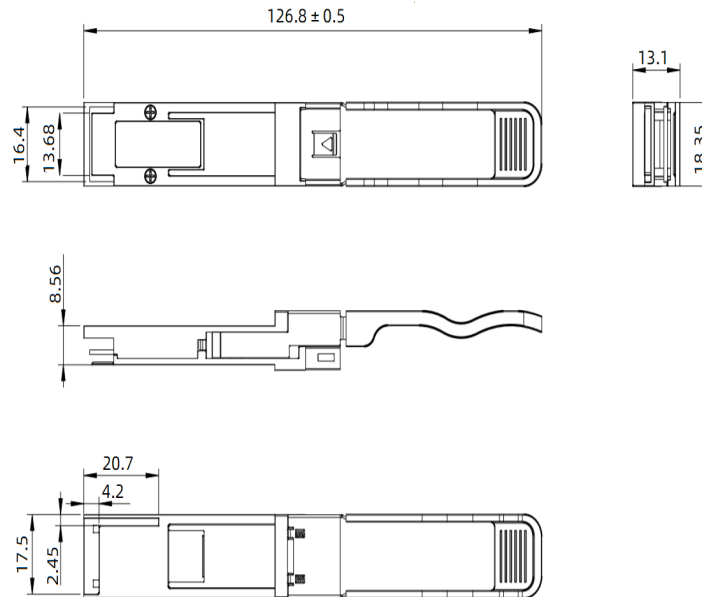
## Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Note
Data Rate	DR		10		Gbps	
Operating Temperature	T <sub>C</sub>	−20		85	°C	
Storage Temperature	T <sub>STO</sub>	−40		85	°C	
Relative Humidity	RS			85	%	
Operating Voltage	V <sub>CC</sub>	3.14	3.3	3.46	V	
Power Consumption	P			0.05	W	

## Dimension

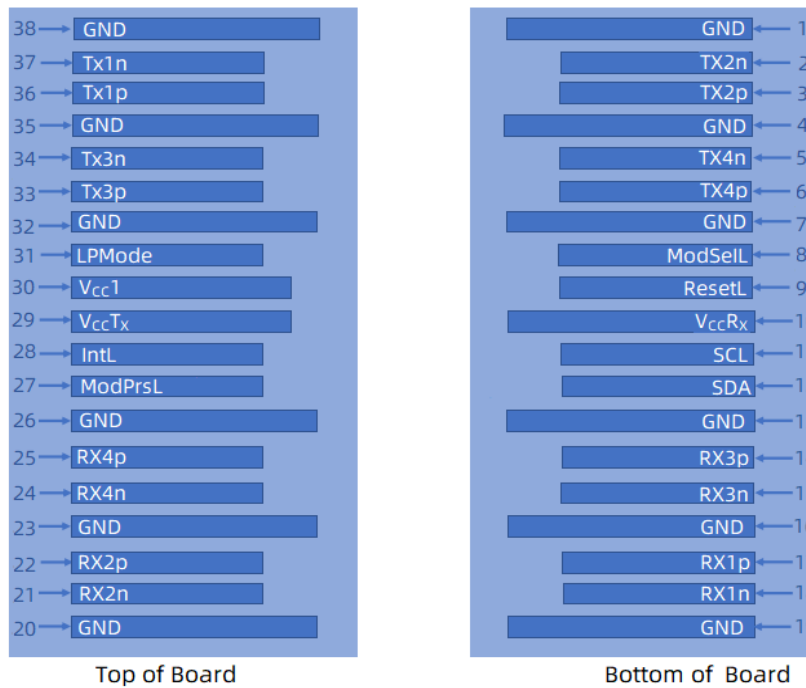
**Module Weight: 28.5g**

**Dust Cap Weight: 0.92g**



Unmarked Dimensional Tolerance  $\pm 0.2$ mm, units: millimeters

## QSFP+ Pinout Diagram



## QSFP+ Pin Definition

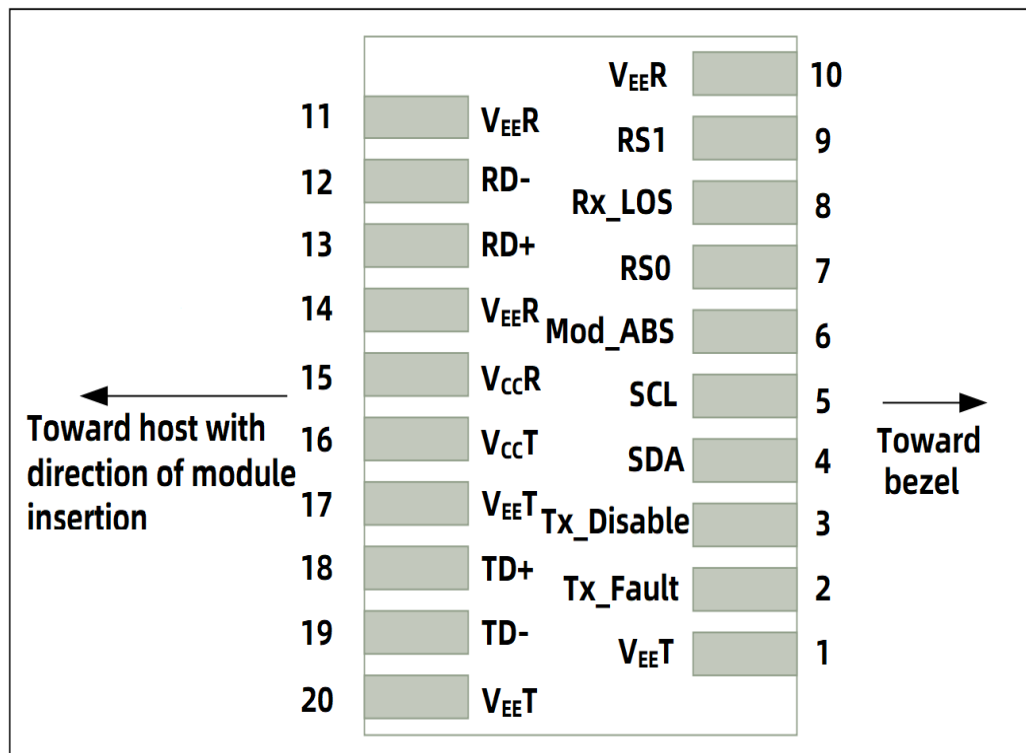
PIN #	Symbol	Description	Note
1	GND	Ground	5
2	TX2n	Transmitter data input negative, LAN2	
3	TX2p	Transmitter data input positive, LAN2	
4	GND	Ground	5
5	TX4n	Transmitter data input negative, LAN4	
6	TX4p	Transmitter data input positive, LAN4	
7	GND	Ground	5
8	ModSelL	Module selection pin, low voltage when module responds to two-wire serial communication	1
9	ResetL	Module reset	2
10	V <sub>CC</sub> R <sub>X</sub>	+3.3V Receiver power supply	
11	SCL	Two-wire serial interface clock line	
12	SDA	wo-wire serial interface data line	
13	GND	Ground	5
14	RX3P	Receiver Data Output Negative, LAN3	
15	RX3n	Receiver Data Output Positive, LAN3	
16	GND	Ground	5
17	RX1P	Receiver Data Output Negative, LAN1	
18	RX1n	Receiver Data Output Positive, LAN1	
19	GND	Ground	5
20	GND	Ground	5
21	Rx2n	Receiver Data Output Negative, LAN2	
22	Rx2p	Receiver Data Output Positive, LAN2	
23	GND	Ground	5
24	Rx4n	Receiver Data Output Negative, LAN4	
25	Rx4p	Receiver Data Output Positive, LAN4	
26	GND	Ground	5
27	ModPrsL	Module Insertion Indicator Pin,internally grounded	3
28	IntL	nterrupt	4
29	V <sub>CC</sub> T <sub>X</sub>	+3.3V Transmitter Power Supply	
30	V <sub>CC</sub> 1	+3.3V Power Supply	
31	LPMODE	Low Power Mode	5
32	GND	Ground	5

33	Tx3p	Transmitter Data Input Positive, LAN3	
34	Tx3n	Transmitter Data Input Negative, LAN3	
35	GND	Ground	5
36	Tx1p	Transmitter Data Input Positive, LAN1	
37	Tx1n	ransmitter Data Input Negative, LAN1	
38	GND	Ground	5

## Note:

1. ModSelL is an input pin. When it is held low by the host, the module responds to 2-wire serial communication commands. ModSelL allows multiple QSFP modules to be used on a single 2-wire interface bus. If ModSelL is "high", the module will not respond to any 2-wire interface communication from the host. ModSelL there are internal pull-up resistors within the module..
2. The reset pin, when ResetL is low for longer than the minimum pulse duration, will cause the module to reset and restore all user modules to their default state. The host should ignore all status bits until the reset interrupt completes.
3. This pin is high-active, indicating that the module is operating in low-power mode. This signal has no effect on the product's functionality.
4. IntL is an output pin, which is an open-collector output and should be pulled up to Vcc with a 4.7kΩ-10kΩ resistor on the host board. When it is low, it indicates that the module may be operating in a faulty state. The host uses a two-wire serial interface to identify the interrupt source.
5. The circuit ground and the ground of the module case are internally isolated.

## SFP+ Pin Diagram



## SFP+ Pin Definition

PIN #	Symbol	Description	Notes
1	V <sub>EET</sub>	ransmitter ground (shared with receiver ground)	1
2	TX_FAULT	Transmitter fault alarm	
3	TX_DISABLE	This signal is disabled when high or open, enabling the transmitter	2
4	SDA	Two-wire serial interface data line	3
5	SCL	Two-wire serial interface clock line	3
6	MOD_ABS	Module insertion indicator, internally grounded	3
7	RS0	Rate selection 0, selectable to control SFP+ module receiver end	
8	LOS	Link loss indicator, low voltage indicates normal module operation	4
9	RS1	Rate selection 1, selectable to control SFP+ module transmitter end	
10	V <sub>EER</sub>	VEER Receiver ground (shared with transmitter ground	1
11	V <sub>EER</sub>	VEER Receiver ground (shared with transmitter ground)	1
12	RD-	Receiver data output negative, AC-coupled	
13	RD+	Receiver data output positive, AC-coupled	
14	V <sub>EER</sub>	Receiver ground (shared with transmitter ground)	1
15	V <sub>CCR</sub>	Receiver power 3.3V	
16	V <sub>CCT</sub>	Transmitter power 3.3V	
17	V <sub>EET</sub>	Transmitter ground (shared with receiver ground)	1
18	TD+	Transmitter data input positive, AC-coupled	
19	TD-	Transmitter data input negative, AC-coupled	
20	V <sub>EET</sub>	Transmitter ground (shared with receiver ground)	1

### Note:

- 1.Circuit ground is insulated from module housing;
- 2.Disabled: T<sub>DIS</sub>>2V or open, enabled: T<sub>DIS</sub><0.8V;
- 3.Should be pulled up to a voltage between 2V and 3.6V on the host board with a 4.7kΩ-10kΩ resistor;
- 4.LOS is collector-open output.