QSFP to SFP+ Adapter (QSA) Module

WTQSA-QSFP-10GSFP+



1. Product Overview

The QSFP to SFP+ Adapter (QSA) Module offers 10Gigabit 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.

The QSA Module interoperates with all major optical modules and direct attached copper cable vendors. Its design assures minimum loss on the conversion path between the QSFP cage and the SFP+ receptacle. The high-speed data channel of the SFP+ receptacle is connected to lane 1 of the QSFP connector. The three remaining channels on the QSFP connector are not connected. 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 40 Gigabit Ethernet by maximizing the use of high-density 40 Gigabit Ethernet QSFP platforms. This adapter supports all SFP+ optics and cable reach. Compatible switch models and SFP+ modules. A list of SFP+ modules that can be plugged into the QSA module is provided in Table

The WTQSA-QSFP-10GSFP+ is qualified for 10GbE SFP+ and 1GbE SFP transceivers meeting the Small Form Factor Pluggable (SFP) Transceiver Multi- source Agreement (MSA). The QSA module provides a solution for integrating systems using different vendors ‘equipment, is vendor agnostic and provides a direct path to the SFP port unit’s memory.

Table 1.

Features

- Trouble-free installation and network bring-up
- Compliant to industry standards: SFF-8436
- Compliant to industry standards: SFF-8432
- Precision process control for minimization of pair-to-pair skew
- 1 independent duplex channels operating at 10Gbps, also support for 5Gbps data rates
- All-metal housing for superior EMI performance
- 100ohm differential impedance system
- Operating case temperature: -20 to 85℃
- Low insertion loss
- Low crosstalk
- Secure latching mechanism
- RoHS compliant

Applications

- Low EMI radiation Switches, servers and routers
- Telecommunication and wireless infrastructure
- Test and measurement equipment
- Networked storage systems
- Data Center networks
- Storage area networks

2. Ordering Information

Item	Product Name	Product Description
1	SFP-10G-SR	10GBASE-SR SFP+ Module for Multimode Fiber
2	SFP-10G-LR	10GBASE-LR SFP+ Module for Single-Mode Fiber

Item	Product Name	Product Description
3	SFP-10G-ER	10GBASE-ER SFP+ Module for Single-Mode Fiber
4	SFP-10G-ZR	DWDM SFP+ Modules for Single-Mode Fiber
5	SFP-H10GB-CUxM (ACUxM)	SFP+ Twinax Copper Cables (1-m to 10-m lengths)
6	SFP-10G-AOCxM	SFP+ Active Optical Cable Assembly

3. Ordering Information

Part Number	Description
WTQSA-QSFP-10GSFP+	QSFP to SFP+ Adapter (QSA) Module, I2C read port information comes from SFP port module
WTQSA-QSFP-10GSFP+-B	QSFP to SFP+ Adapter (QSA) Module, I2C read port information from QSA adapter, support DDMI

4. Recommended Operating Conditions

Parameter	Symbol	Min	Max	Units
Operating Case Temperature	Topc	-20	85	degC
Storage Temperature	Tst	-40	85	degC
Relative Humidity (non-condensation)	RS	-	85	%
Supply Voltage	VCC3	3.15	3.45	V
Power consumption	Pout		0.3	W
Characteristic Impedance	Im	90	110	Ohm
Data Rate		1	25	Gbps

5. Pin Descriptions

Pin	Logic	Symbol	Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data output	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data output	
7		GND	Ground	1
8	LVTLL-I	ModSelL	Module Select	
9	LVTLL-I	ResetL	Module Reset	

Pin	Logic	Symbol	Description	Note
10		VccRx	+ 3.3V Power Supply Receiver	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data	
13		GND	Ground	
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	1
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		VccTx	+3.3 V Power Supply transmitter	2
30		Vcc1	+3.3 V 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 Output	
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	
37	CML-I	Tx1n	Transmitter Inverted Data Output	
38		GND	Ground	1

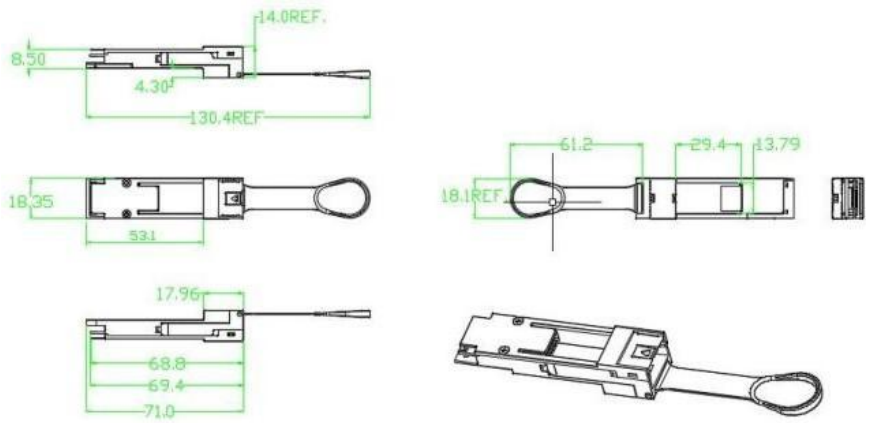
6. Pin Descriptions

Pin	Logic	Symbol	Name/Description	Note
1		VeeT	Module Transmitter Ground	1
2	LVTTL-O	Tx_Fault	Transmitter Fault	2
3	LVTTL-I	Tx_Disable	Transmitter Disable	3
4	LVTTL-I/O	SDA	MOD-DEF2 2-wire serial interface data line	4
5	LVTTL-I/O	SCL	MOD-DEF1 2-wire serial interface clock line	4
6		Mod_Abs	Module Absent	5
7	LVTTL-I	RS0	Rate Select Zero	
8	LVTTL- O	Rx_LOS	Module Receiver Loss of Signal	2
9	LVTTL-I	RS1	Rate Select One	
10		VeeR	Module Receiver Ground	1
11		VeeR	Module Receiver Ground	1
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver Non-Inverted Data Output	
14		VeeR	Module Receiver Ground	1
15		VccR	Module Receiver 3.3V Supply	
16		VccT	Module Transmitter 3.3V Supply	
17		VeeT	Module Transmitter Ground	1
18	CML-I	TD+	Transmitter Non-Inverted Data Input	
19	CML-I	TD-	Transmitter Inverted Data Input	
20		VeeT	Module Transmitter Ground	1

7. Additional Specifications

Maximum physical dimensions (H x W x D)	13.5 x 18.4 x 78 mm
Weight	Typically, less than 100 g

8. Technical Figure 1



9. Revision History

Version	Date	Description	Prepared by
V6	2025	Unified WincoTek datasheet format	WincoTek
V6.1	2026-10-23	Engineering and format review	WincoTek