



CVR-X2-SFP+

10G X2 TO SFP+ Converter Module Data Sheet

Features

- Compatible with X2 MSA Rev2.0b
- Diagnostic Optics Monitoring
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Operating Temperature:
Standard: 0°C~+70°C
- Hot pluggable 70-pin connector with XAUI electrical interface
- Management and control via MDIO 2-wire
- ROHS 2.0 compatible

Applications

- Convert SFP+ to X2 port
- 10GE Storage

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
MaximumSupply Voltage	VCC	-0.5	4.0	V
Operating Relative Humidity			95	%

*Exceeding any one of these values may destroy the device immediatel

The SFP+ transceiver modules that can be plugged into the converter module

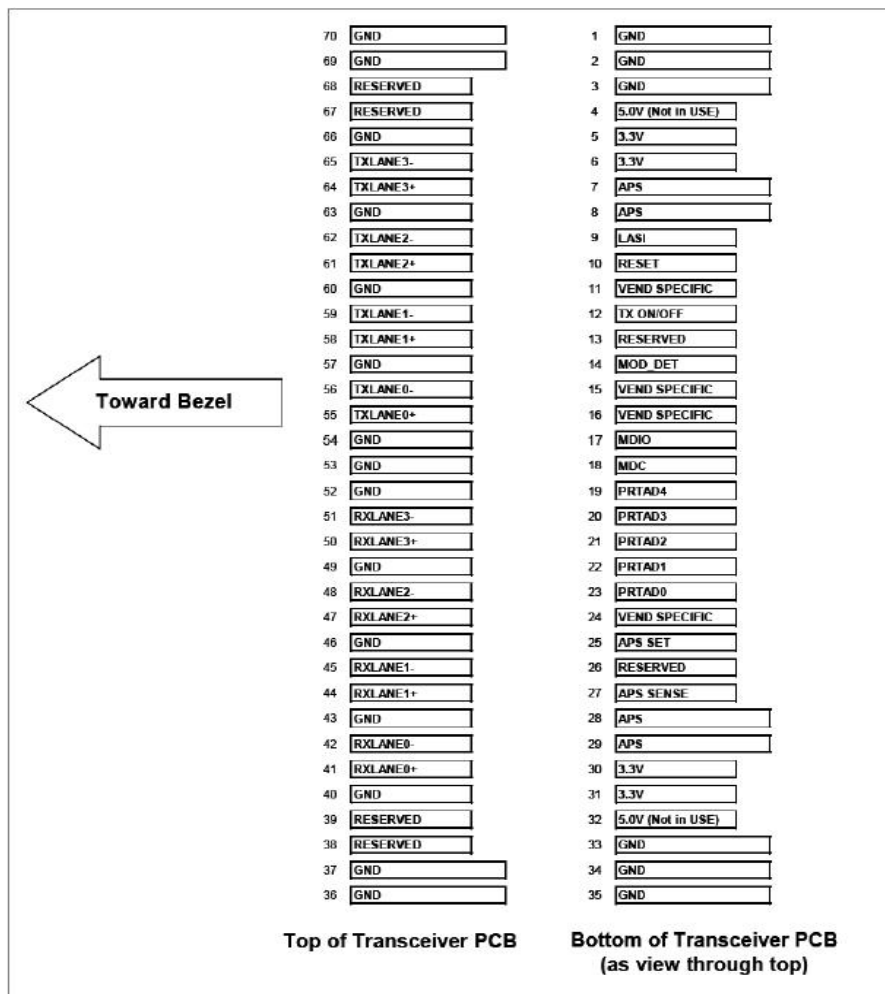
Product Name	Product Description
SR	850nm MM 10G SFP+
LR	1310nm SM 10G SFP+ 10km
ER	1550nm SM 10G SFP+ 40km
ZR	1310nm SM 10G SFP+ 70km
CWDM	CWDM SFP+ 10G
DWDM	DWDM SFP+ 10G

Regulatory Compliance

Feature	Standard	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883G Method 3015.7	Class 1C (>1000V)
Electrostatic Discharge to the enclosure	EN 55024:2010+A1:2015 IEC-61000-4-2 GR-1089-CORE	Compliant with standards
Electromagnetic Interference (EMI)	FCC 47CFR Part 15 Class B EN55032:2015 CISPR 22B :2006 VCCI Class B	Compliant with standards Noise frequency range: 0.15MHz to 6GHz. Good system EMI design practice required to achieve Class B margins. System margins are dependent on customer host board and chassis design.
Immunity	EN 55024:1998+A1+A2 IEC 61000-4-3	Compliant with standards. 1KHz sine-wave, 80% AM, from 80MHz to 1GHz. No effect on transmitter/receiver performance is detectable between these limits.
Component Recognition	UL and CUL EN60950-1:2006	UL file E317337 TÜV Certificate No. 50135086(CB scheme)
RoHS6	2002/95/EC 4.1&4.2 2005/747/EC 5&7&13	Compliant with standards*(Note1)

Note1: For update of the equipments and strict control of raw materials, OUSENT has the ability to supply the customized products since Jan 1, 2007, which meet the requirements of RoHS6 (Restrictions on use of certain Hazardous Substances) of European Union. In light of item 5 in RoHS exemption list of RoHS Directive 2002/95/EC, Item 5: Lead in glass of cathode ray tubes, electronic components and fluorescent tubes. In light of item 13 in RoHS exemption list of RoHS Directive 2005/747/EC, Item13: Lead and cadmium in optical and filter glass. The three exemptions are being concerned for Ousent's transceivers, because Ousent's transceivers use glass, which may contain Pb, for components such as lenses, windows, isolators, and other electronic components.

Card-Edge-Connector-Pinning



Pin Function Definitions

Pin	Name	Function	Logic	Notes
1	GND	Electrical Ground	1	1)
2	GND	Electrical Ground	3	1)
3	GND	Electrical Ground	3	1)
4	5.0V	Power	3	2)
5	3.3V	Power	3	2)
6	3.3V	Power	3	2)
7	APS	Adaptive Power Supply	3	2)
8	APS	Adaptive Power Supply	3	2)
9	LASI	Link Alarm Status Interrupt, low active, Open Drain Output A pull-up resistor with 10-22KΩ to 1,2V is expected. Logic High: Normal Operation	1.2V CMOS Open Drain	
10	Reset	Low active Reset Input 10KΩ pull-up on Transceiver	1.2V CMOS Open Drain	

		Logic high = Normal Operation		
11	VEND SPECIFIC	Vendor Specific Pin, Leave unconnected		5)
12	TX ON/OFF	High active Transmitter Enable Input 10K Ω pull-up on Transceiver Logic high = Transmitter active (normal Operation)	1.2V CMOS Open Drain	
13	RESERVED	RESERVED		
14	MOD DETECT	1k Ω to Ground On Transceiver		
15	VENDSPECIFIC	Vendor Specific Pin, Leave unconnected when not in use		5)
16	VENDSPECIFIC	Vendor Specific Pin, Leave unconnected when not in use		5)
17	MDIO	Management Data I/O.	1.2V CMOS Open Drain	3)
18	MDC	Management Clock Input	1.2V CMOS Open Drain	3)
19	PRTAD4	Port Address Bit 4(LOW=0)		
20	PRTAD3	Port Address Bit 3(LOW=0)		
21	PRTAD2	Port Address Bit 2(LOW=0)		
22	PRTAD1	Port Address Bit 1(LOW=0)		
23	PRTAD0	Port Address Bit 0(LOW=0)		
24	VEND SPECIFIC	Vendor Specific Pin,. Leave unconnected when not in use		5)
25	APS SET	Feedback Input for APS, Input of APS Setting Resistor		
26	RESERVED	Reserved Avalanche Photodiode use.		5)
27	APS SENSE	APS Sense Output for APS Control Circuit		
28	APS	Adaptive Power Supply		2)
29	APS	Adaptive Power Supply		2)
30	3.3V	Power		2)
31	3.3V	Power		2)
32	5.0V	Power		2)
33	GND	Electrical Ground		1)
34	GND	Electrical Ground		1)
35	GND	Electrical Ground		1)
36	GND	Electrical Ground		1)
37	GND	Electrical Ground		1)
38	RESERVED	RESERVED		
39	RESERVED	RESERVED		
40	GND	Electrical Ground		1)
41	RX LANE 0+	Module XAUI Output Lane 0+		4)

42	RX LANE 0-	Module XAUI Output Lane 0-	4)
43	GND	Electrical Ground	1)
44	RX LANE 1+	Module XAUI Output Lane 1+	4)
45	RX LANE 1-	Module XAUI Output Lane 1-	4)
46	GND	Electrical Ground	1)
47	RX LANE 2+	Module XAUI Output Lane 2+	4)
48	RX LANE 2-	Module XAUI Output Lane 2-	4)
49	GND	Electrical Ground	1)
50	RX LANE 3+	Module XAUI Output Lane 2+	4)
51	RX LANE 3-	Module XAUI Output Lane 2-	4)
52	GND	Electrical Ground	1)
53	GND	Electrical Ground	1)
54	GND	Electrical Ground	1)
55	RX LANE 0+	Module XAUI Output Lane 0+	4)
56	RX LANE 0-	Module XAUI Output Lane 0-	4)
57	GND	Electrical Ground	1)
58	TX LANE 1+	Module XAUI Output Lane 1+	4)
59	TX LANE 1-	Module XAUI Output Lane 1-	4)
60	GND	Electrical Ground	1)
61	TX LANE 2+	Module XAUI Output Lane 2+	4)
62	TX LANE 2-	Module XAUI Output Lane 2-	4)
63	GND	Electrical Ground	1)
64	TX LANE 3+	Module XAUI Output Lane 2+	4)
65	TX LANE 3-	Module XAUI Output Lane 2-	4)
66	GND	Electrical Ground	1)
67	RESERVED	RESERVED	
68	RESERVED	RESERVED	
69	GND	Electrical Ground	1)
70	GND	Electrical Ground	1)

NOTES:

- 1) Ground connections are common for TX and RX.
- 2) Each connector contact is rated at 0.5A.
- 3) MDIO and MDC timing must comply with IEEE 802.3ae clause 45.3.
- 4) XAUI output characteristics comply with IEEE 802.3ae clause 47.
- 5) Transceivers will be MSA compliant when no signals are present on the vendor specific pins.

