PRODUCT FEATURES

- Twinax Direct-Attach Cable (DAC)
- SFP+ to SFP+ Connectors
- Length: 50cm to 10 Meters
- Supports 1Gb/s to 10.5Gb/s bit rates
- 10GBASE-CU Twinax, Passive
- Improved Pluggable performance Form Factor (IPF)compliant for enhanced EMI/EMC performance
- Lower Power Consumption < 0.5W
- Operating case temperature: 0°C~+70°C
- Compliant with RoHS

APPLICATIONS

- Switched fabric I/O
- 1G/2G/4G/8G Fiber Channel
- Data center cabling infrastructure
- Storage Area Networks (SAN), Networ Attached Storage and
- Storage Servers

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	TS	-20		+85	℃
Supply Voltage	VCC	-0.5		4.0	V

*Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the datasheet. Expo-sure to absolute maximum ratings for extended periods can adversely affect reliability.

Recommended Operating Conditions

Parameter	Symbol		Min.	Typ.	Max.	Unit
Operating Case Temperature	Tc	OS-SP96-MXC	0		+70	℃
Power Supply Voltage	Vcc		3.13	3.3	3.47	V
Power Consumption	p			60	0.5	w
Power Supply Noise Tolerance			1		10.3	Gbps

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http://www.hpcoptics.com

Performance Specifications -Electrical

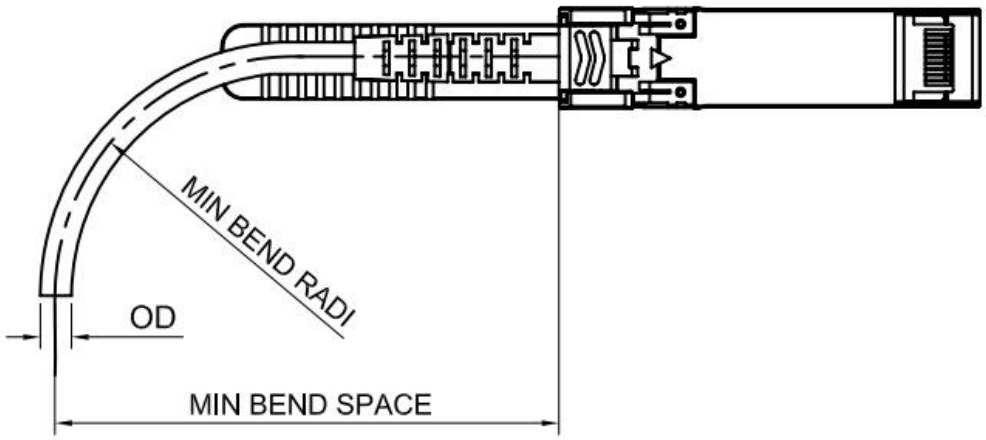
Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Current	Icc			100	mA
Transmitter Differential Input Voltage (PECL)	VIN	250		1200	mVpp
Receiver Differential Output Voltage (PECL)	VO	185		1000	mVpp
Impedance	Zcable	90	100	110	Ohms

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)

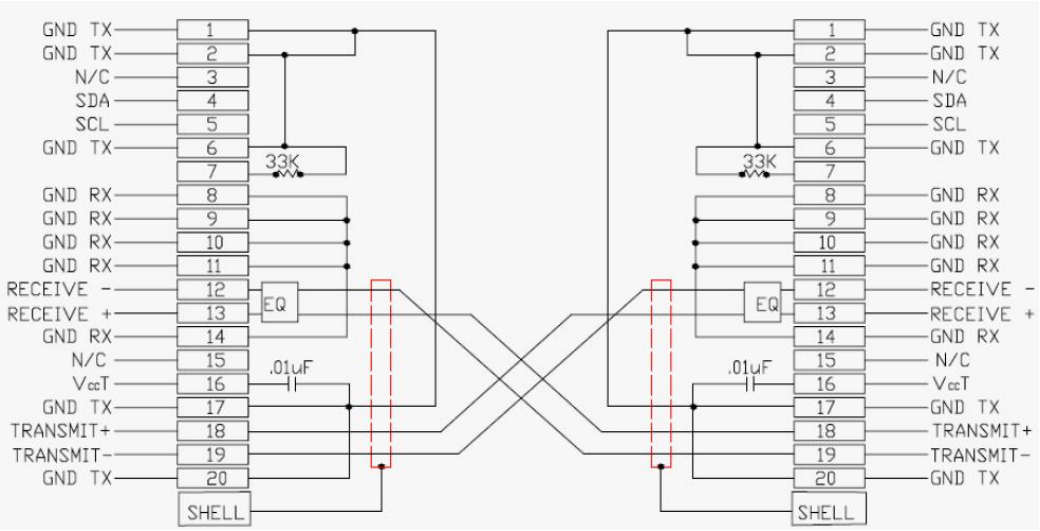
Note1: For update of the equipments and strict control of raw materials, OUSENT has the ability to supply the customized products since Jan 1, 2007, which meet the requirements of RoHS6 (Restrictions on use of certain Hazardous Substances) of European Union. In light of item 5 in RoHS exemption list 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.

Physical Data

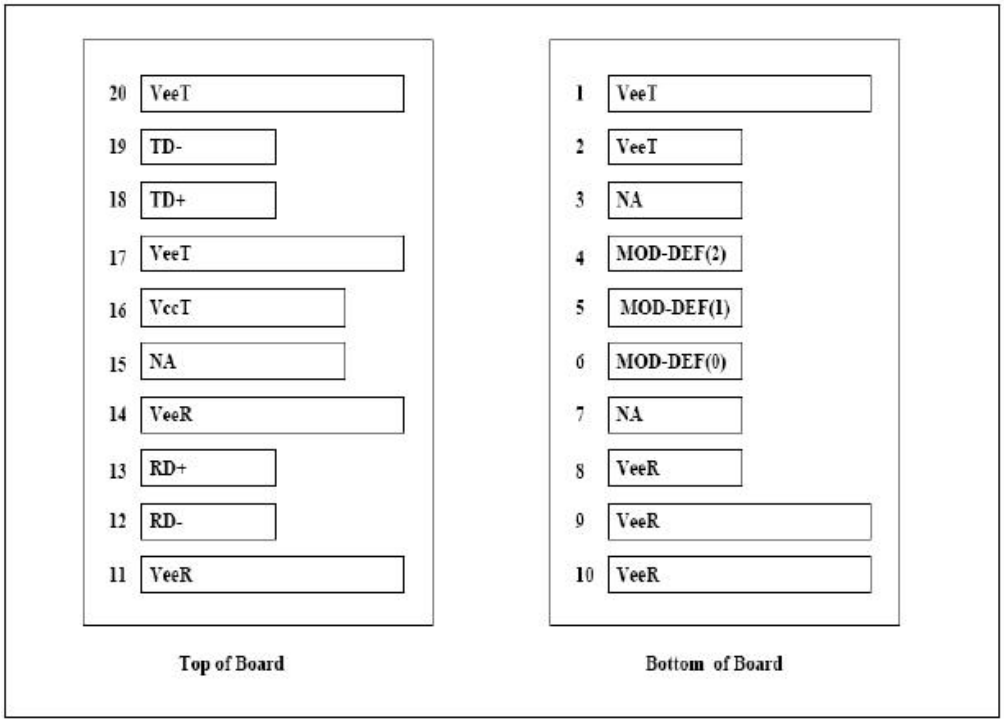


Parameter	Description	30AWG	28AWG	24AWG	Units
Cable Diameter	OD	4.5	5.5	6.5	mm
Bend Radius	Minimum Sustained Bend	25	30	35	mm

Reference Interface



Pin Function Definitions



Pin	Name	Function	Plug Seq.	Notes
1	VeeT	Transmitter Ground	1	5)
2	TX Fault	Transmitter Fault Indication	3	1)
3	TX Disable	Transmitter Disable	3	2) Module disables on high oropen
4	SDA	Transmitter Disable	3	3) 2 wire serial ID interface.
5	SCL	Module Definition 2	3	3) 2 wire serial ID interface.
6	MOD-DEF0	Module present,connect to VeeT	3	3)
7	RSO	RX Rate Select(LVTTL).	3	Rate Select 0, optionally controls SFP+module receiver. This pin is pulled low to VeeT with a >30K resistor..
8	LOS	Loss of Signal	3	4)
9	RS1	TX Rate Select(LVTTL).	1	Rate Select 1, optionally controls SFP+Module transmitter. This pin is pulled low toVeeT with a >30K resistor.
10	VeeR	Receiver Ground	1	5)
11	VeeR	Receiver Ground	1	5)
12	RD-	Inv. Received Data Ou t	3	6)
13	RD+	Received Data Out	3	6)

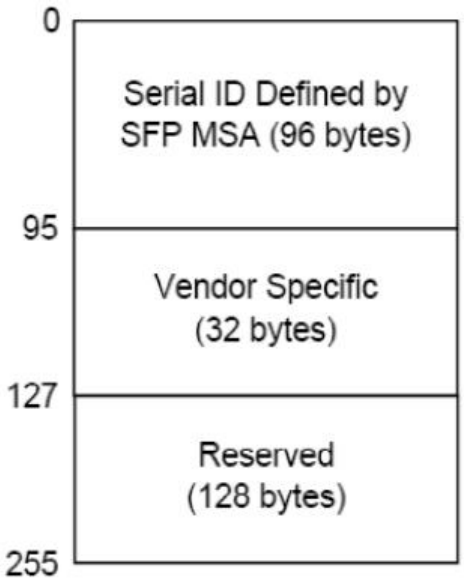
14	VeeR	Receiver Ground	1	5)
15	VccR	Receiver Power	2	7) 3.3V ± 5%
16	VccT	Transmitter Power	2	7) 3.3V ± 5%
17	VeeT	Transmitter Ground	1	5)
18	TD+	Transmit Data In	3	8)
19	TD-	Inv. Transmit Data In	3	8)
20	VeeT	Transmitter Ground	1	5)

NOTES:

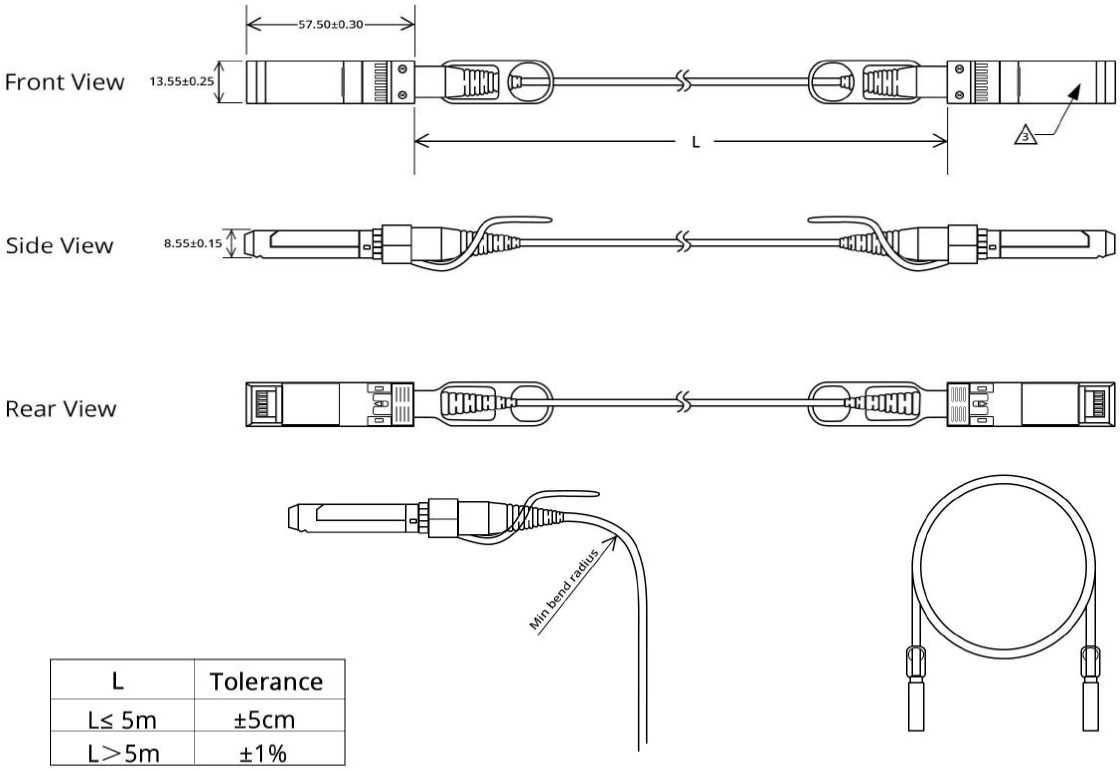
1. Signals not supported in SFP+ Copper pulled-down to VeeT with 30K ohms resistor.

2. Passive cable assemblies do not support LOS and TX_DIS

EEPROM



Mechanical Specifications



L	Tolerance
L≤ 5m	±5cm
L>5m	±1%

Notes:
1.Unit:mm
2.“L ” for Cable Length
3. Label Specification