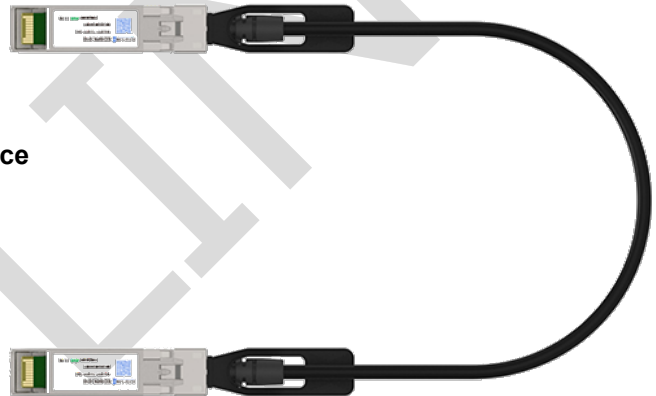


EDSPX-xx

10G SFP+ to 10G SFP+ Direct Attach Copper Cables

PRODUCT FEATURES

- Support for multi-gigabit data rates up to 10Gb/s
- Data rates backward compatible to 1Gb/s
- Hot-pluggable SFP 20PIN footprint
- Improved Pluggable Form Factor (IPF)
- Compliant for enhanced EMI/EMC performance
- Low Power Consumption < 0.2W
- Power Supply :+3.3V
- Compatible to SFP+ MSA
- Compatible to SFF-8431, SFF8432
- Temperature Range: 0~ 70 °C
- RoHS Compatible



APPLICATIONS

- High Passive I/O in Storage Area Networks, Network Attached Storage, and Storage Servers
- Switched fabric I/O such as ultra high bandwidth switches and routers
- Data center cabling infrastructure
- High density connections between networking equipment

DESCRIPTIONS

The SFP+ Passive cable assemblies are high performance, cost effective I/O solutions for 10Gb Ethernet and 10G Fiber Channel applications. SFP+ copper modules allow hardware manufactures to achieve high port density, configurability and utilization at a very low cost and reduced power budget. The high speed cable assemblies meet and exceed Gigabit Ethernet and Fiber Channel industry standard requirements for performance and reliability.

Ordering Information

Part No.	Description
EDSPX-xx	10G SFP+ to 10G SFP+ Direct Attach Copper Cables 1~10M

Notes:

- where "x" denotes cable length in meters. Examples are as follows:
- x = 1 for 1m, xx=10 for 10m,

Wire gauge Information

Part Number	EDSPX-xx									
Length (meter)	1	2	3	4	5	6	7	8	9	10
Wire gauge (AWG)	30	30	30	24	24	24	24	24	24	24

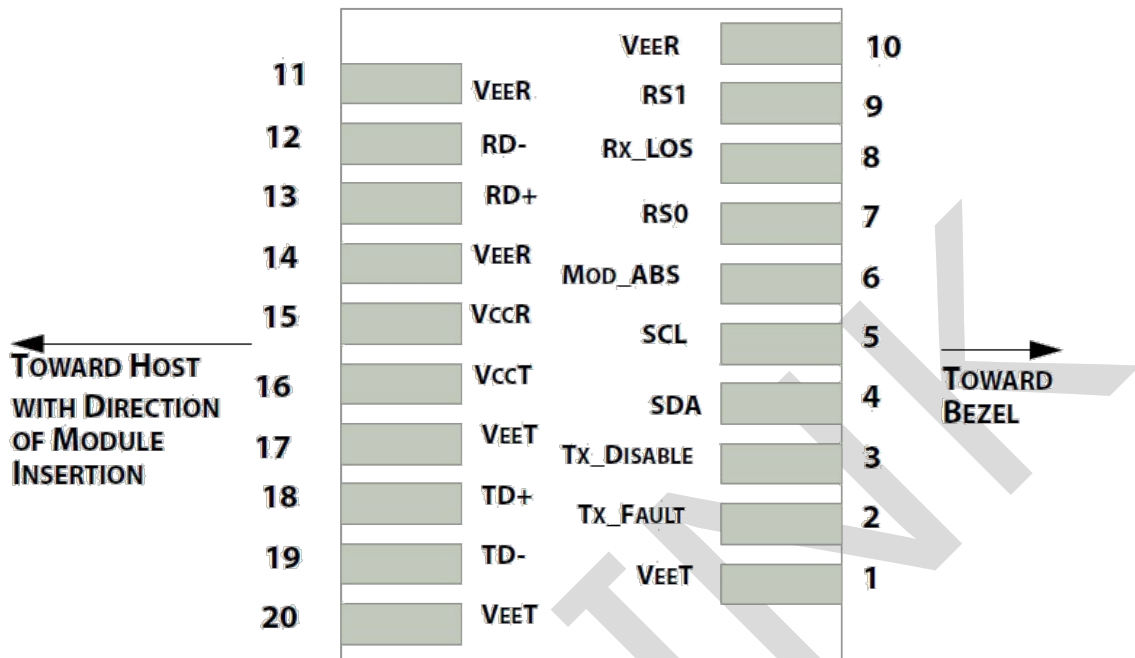
Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	T _c	0		+70	°C
Power Supply Voltage	V _{cc3}	3.14	3.3	3.47	V
Power Dissipation	PD			0.2	W

Systems

Performance	Media	Operating parameters
10.5Gbps line speed, full duplex Bit error rate: better than 10E-12	Hot-pluggable, industry-standard Small Form-Factor Pluggable (SFP+) copper cable, available as 1m, 3m or 5m.	Supply voltage: 3.3V Power consumption(per end): max 0.2W

Pin Diagram

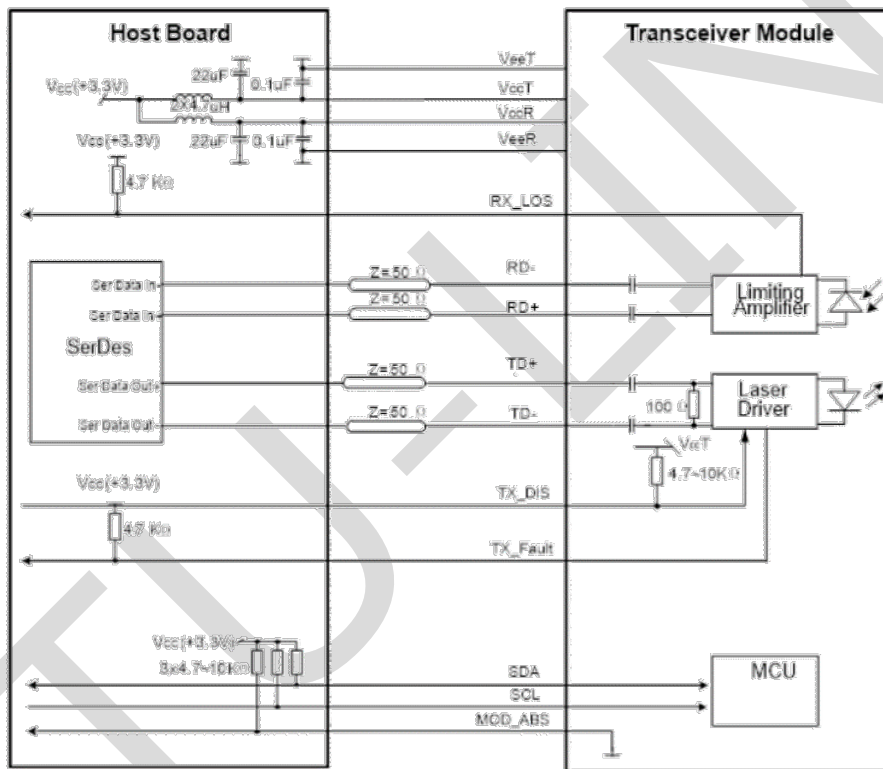


PIN #	Name	Function	Notes
1	VeeT	Module transmitter ground	1
2	Tx Fault	Module transmitter fault	2
3	Tx Disable	Transmitter Disable; Turns off transmitter laser output	3
4	SDL	2 wire serial interface data input/output (SDA)	4
5	SCL	2 wire serial interface clock input (SCL)	4
6	MOD-ABS	Module Absent, connect to VeeR or VeeT in the module	4
7	RS0	Rate select0, optionally control SFP+ receiver. When high, input data rate >4.5Gb/ s; when low, input data rate <=4.5Gb/s	5
8	LOS	Receiver Loss of Signal Indication	6
9	RS1	Rate select0, optionally control SFP+ transmitter. When high, input data rate >4.5Gb/s; when low, input data rate <=4.5Gb/s	1
10	VeeR	Module receiver ground	1
11	VeeR	Module receiver ground	1
12	RD-	Receiver inverted data output	
13	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	TD+	Transmitter inverted data output	
19	TD-	Transmitter non-inverted data output	
20	VeeT	Module transmitter ground	1

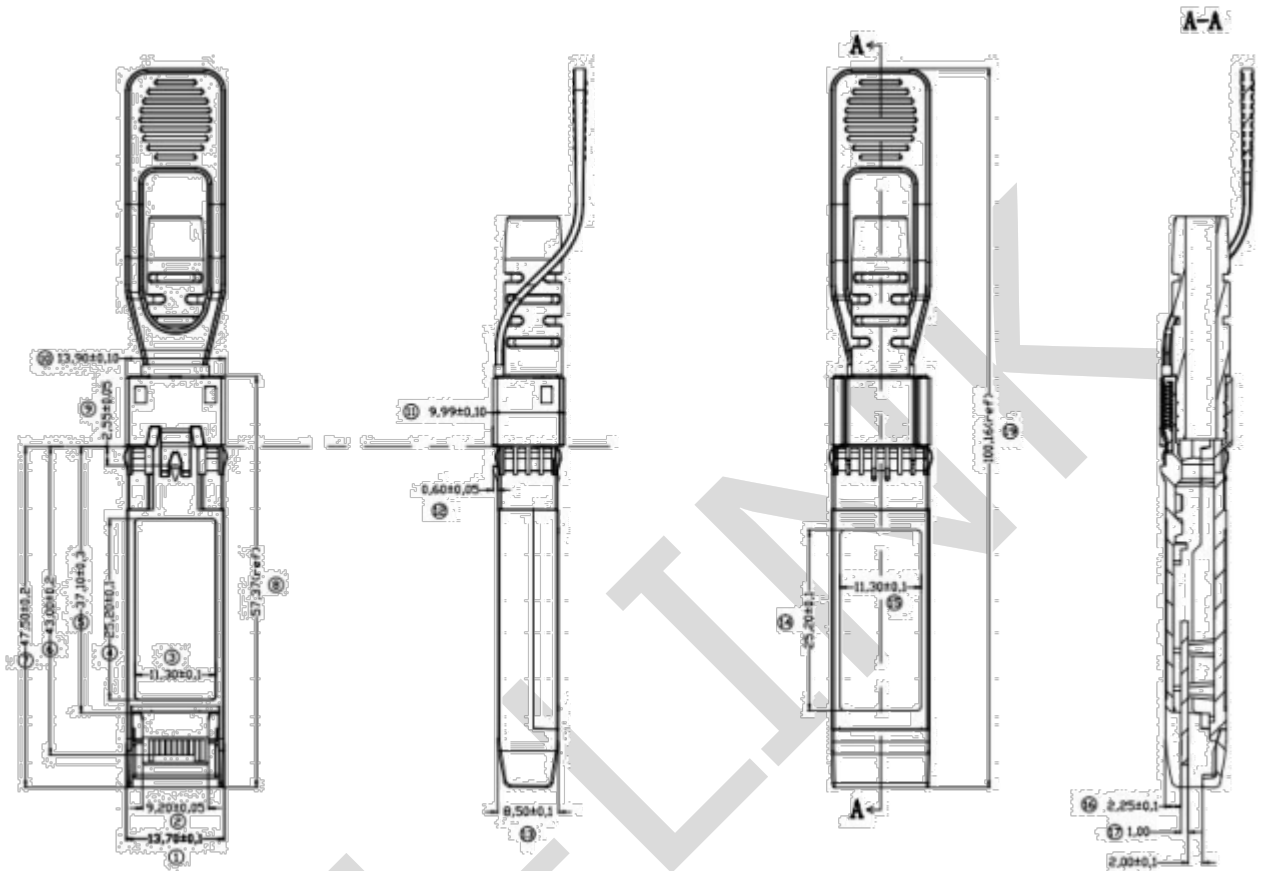
Notes:

1. Circuit ground is internally isolated from chassis ground
2. Tx FAULT is an open collector/drain output, which should be pulled up with a 4.7k – 10k Ohms resistor on the host board if intended for use. Pull up voltage should be between 2.0V to Vcc + 0.3V. A high output indicates a transmitter fault caused by either the TX bias current or the TX output power exceeding the preset alarm thresholds. A low output indicates normal operation. In the low state, the output is pulled to <0.8V.
3. Laser output disabled on Tx DIS >2.0V or open, enabled on Tx DIS <0.8V.
4. Should be pulled up with 4.7kΩ- 10kΩ host board to a voltage between 2.0V and 3.6V. MOD_ABS pulls line low to indicate module is plugged in.
5. Internally pulled down per SFF-8431 Rev 4.1.
6. LOS is open collector output. It should be pulled up with 4.7kΩ – 10kΩ on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

Recommended Interface Circuit



Mechanical Diagram



Revision History

Version No.	Date	Description
1.0	Aug 12, 2017	Preliminary datasheet
1.1	Aug 12, 2024	Format change

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