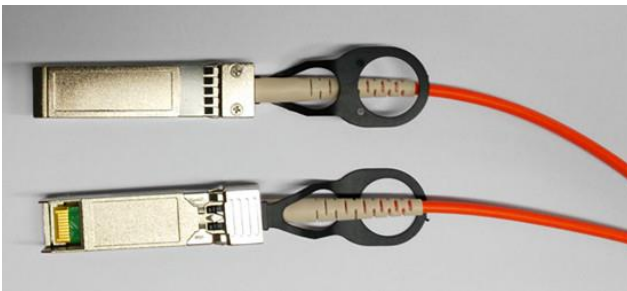


10G SFP+ Active Optical Cable

Features

- Hot pluggable
- Bit rate support from 1G to 11.3Gbps
- Pre-terminated twin axial cable / fiber cable
- Operating environment temperature 0 ~ 70°C
- Low power consumption
- SFP+ housing with enhanced EMI shielding
- Single 3.3V power supply
- Programmable EEPROM for serial identification



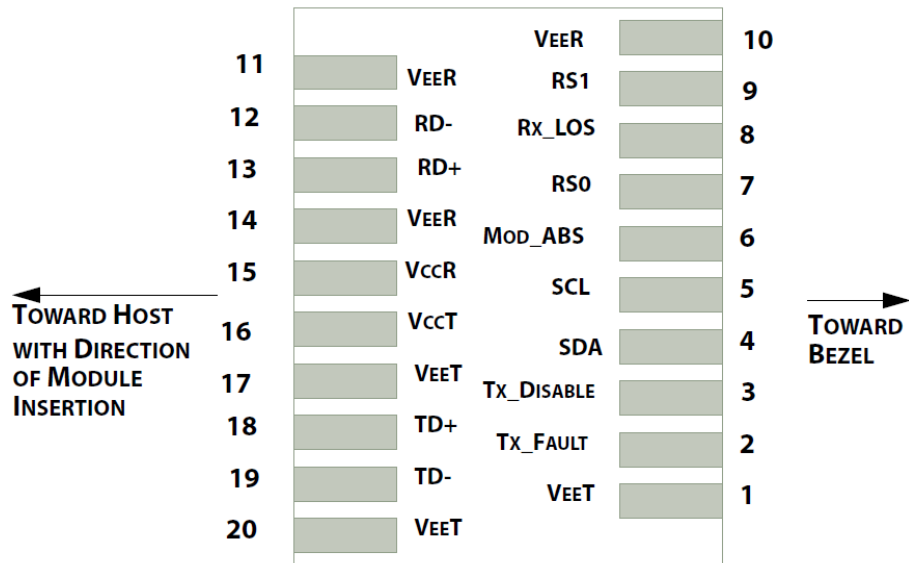
Applications

- 10G Ethernet
- Applicable to 1G Ethernet
- 8G Fiber Channel
- Applicable to 4G / 2G / 1G Fiber Channel
- 10G Fiber Channel over Ethernet
- 1X QDR Infiniband
- Applicable to 1X DDR / 1x SDR Infiniband
- High capacity IO with SFP+ interface
- Data center and in-rack connection

Compliance

- SFF-8431 SFP+ Electrical MSA
- SFF-8432 SFP+ Mechanical MSA
- RoHS complaint

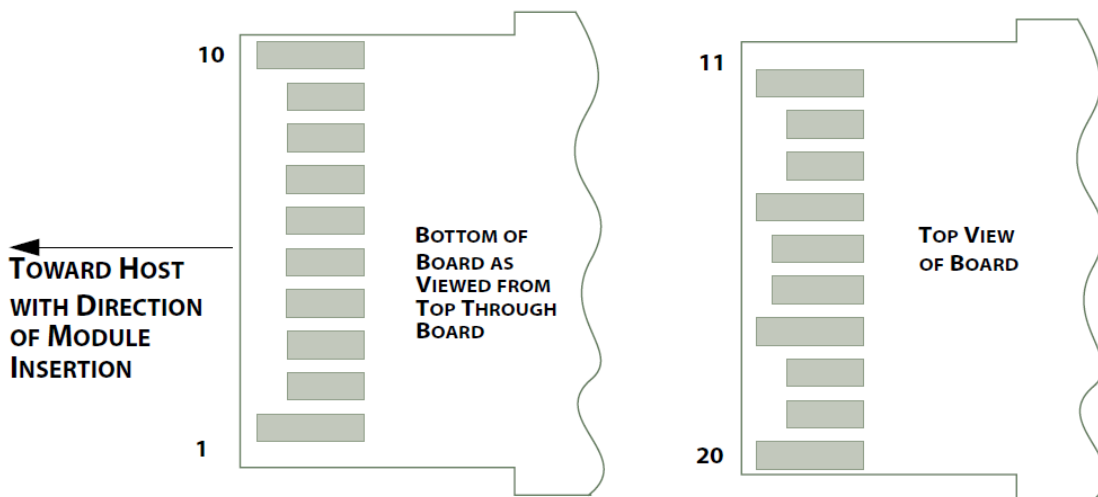
Host Board Connector Pin (Top View)



Note:

For detail information, please refer to SFF-8083 0.8mm Card Edge Connector for 8/10 Gbps Applications

SFP+ Connector Pin



Pin	Symbol	Logic	Description	Note
1	VeeT		Module Transmitter Ground	1
2	Tx_Fault	LVTTL-O	Not supported.	3
3	Tx_Disable	LVTTL-I	Not supported.	3
4	SDA	LVTTL-I/O	2-wire Serial Interface Data Line	2
5	SCL	LVTTL-I/O	2-wire Serial Interface Clock	2
6	Mod_ABS		Module Absent	2
7	RS0	LVTTL-I	Not supported.	3
8	Rx_LOS	LVTTL-O	Not supported.	3
9	RS1	LVTTL-I	Not supported.	3
10	VeeR		Module Receiver Ground	1
11	VeeR		Module Receiver Ground	1
12	RD-	CML-O	Receiver Inverted Data Output	
13	RD+	CML-O	Receiver Non-Inverted Data Output	
14	VeeR		Module Receiver Ground	1
15	VccR		Module Receiver 3.3 V Supply	4
16	VccT		Module Transmitter 3.3 V Supply	4
17	VeeT		Module Transmitter Ground	1
18	TD+	CML-I	Transmitter Non-Inverted Data Input	
19	TD-	CML-I	Transmitter Inverted Data Input	
20	VeeT		Module Transmitter Ground	1

Notes:

- Module circuit ground pins are isolated from the module chassis ground.
- Pull up to $V_{CC_{Host}}$ with $4.7k - 10k\Omega$.
- No connection required.
- Power supply filtering circuit required.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	Ts	-40	+85	°C
Operating Case Temperature	Tc	-40	+85	°C
Operating Humidity	RH		85	%
Supply Voltage	Vcc	-0.5	3.6	V

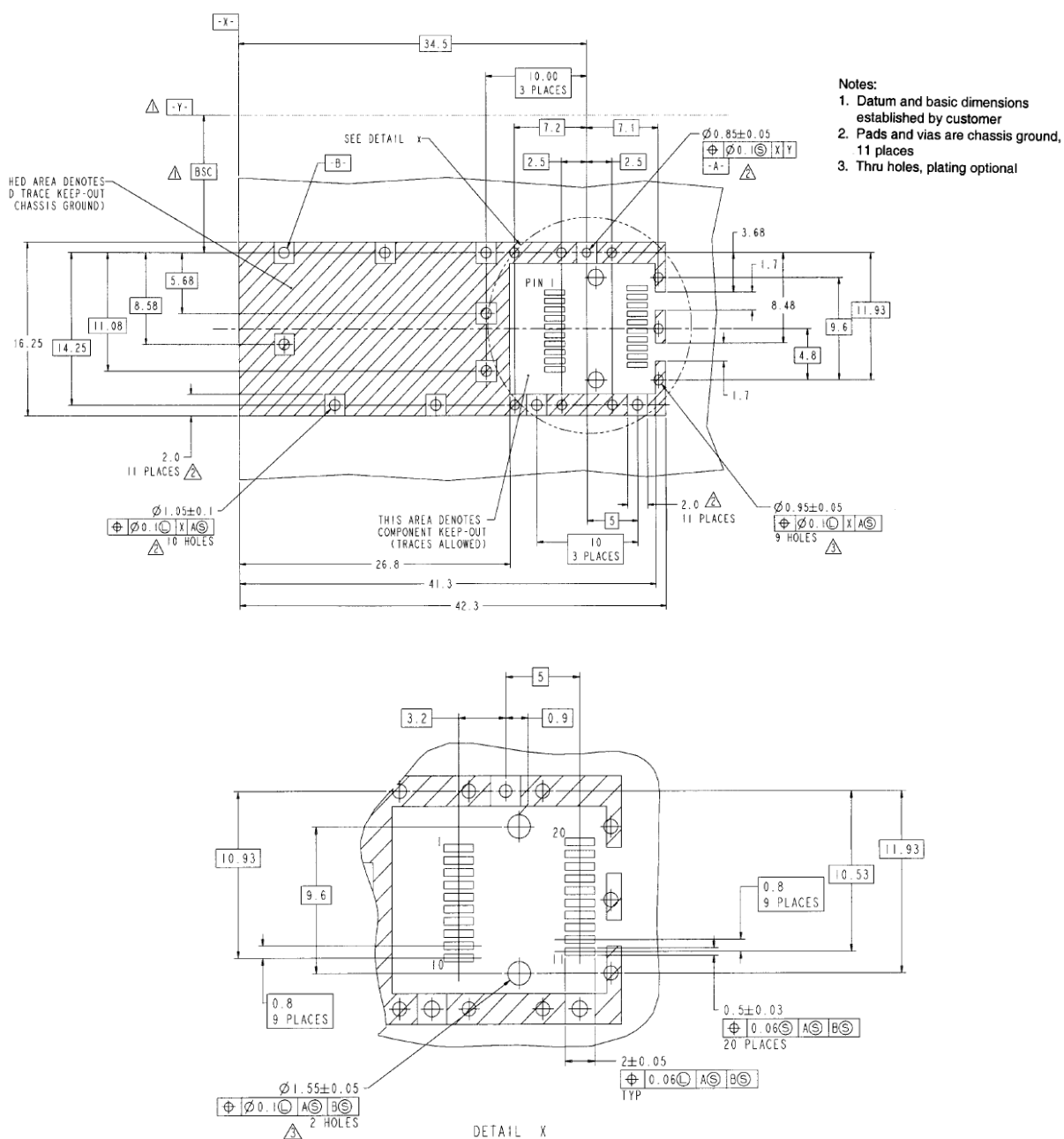
Note:

Damage may occur if the transceiver is subjected to conditions beyond the limits.

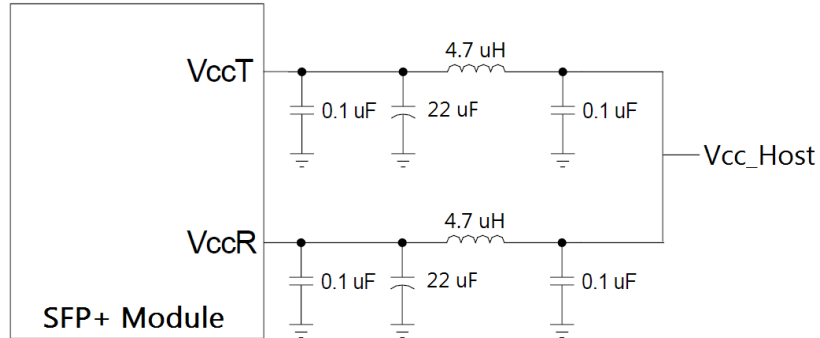
Recommended Operating Conditions

Parameter	Symbol	Min	Max	Unit
Operating Case Temperature	T _c	0	+70	°C
Supply Voltage	V _{cc}	3.1	3.5	V
Bit Rate	BR	1	11.3	GBd

Host PCB Layout



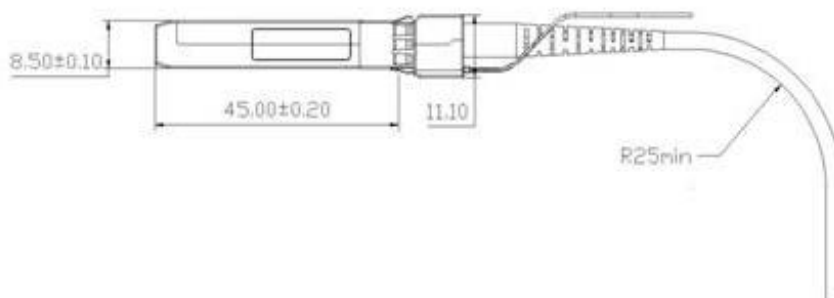
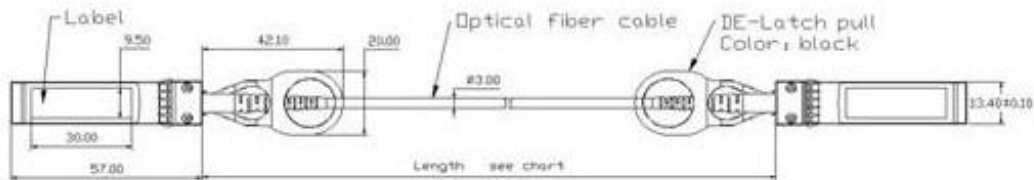
Recommended Power Supply Filter



References:

- 1.SFF-8431 "Specifications for Enhanced Small Form Factor Pluggable Module SFP+"
- 2.SFF-8432 "Specification for Improved Pluggable Form factor"
- 3.SFF-8472 "Specification for Diagnostic Monitoring Interface for Optical Transceivers"

Mechanical Drawing





ESD

This transceiver is specified as ESD threshold 1KV for high speed data pins and 2KV for all others electrical input pins, tested per MIL-STD-883, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

Part Number	Product Description	Fiber Spec.	Coded
TR0407	10G SFP+ Active Optical Cable 7Meters	OM2or OM3	Cisco
TR0408	10G SFP+ Active Optical Cable 10Meters	OM2or OM3	Cisco
TR0409	10G SFP+ Active Optical Cable 15Meters	OM2or OM3	Cisco
TR0410	10G SFP+ Active Optical Cable 20Meters	OM2or OM3	Cisco
TR0411	10G SFP+ Active Optical Cable 25Meters	OM2or OM3	Cisco
TR0412	10G SFP+ Active Optical Cable 30Meters	OM3	Cisco
TR0413	10G SFP+ Active Optical Cable 40Meters	OM3	Cisco
TR0414	10G SFP+ Active Optical Cable 50Meters	OM3	Cisco