

FP-10GSFPCU-XXM

SFP+ Direct Attach Copper Cable

Features

- Compliant with SFP+ MSA
- Up to 11.1Gbps data rate
- Single +3.3V power supply
- Hot-pluggable
- EEPROM for cable signature
- Enhanced EMI shielding for low emissions
- Operating temperature range: -40°C~ +85 °C
- Ultra-low crosstalk for improved performance
- Lower cost alternative to optical transceivers
- Reduced failure rate due to highly reliable design
- RoHS Compliant



Applications

- 8G FC
- 10G FCoE
- 10 Gigabit-Ethernet
- Other links

Standards

- SFF-8431
- SFF-8472
- FC-PI-4
- IEEE 802.3ae

Table1: Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	+85
Relative Humidity (without dew)	RH	%	8	80
Supply Voltage	Vcc	V	-0.5	4

Table2: Recommended Operating Conditions

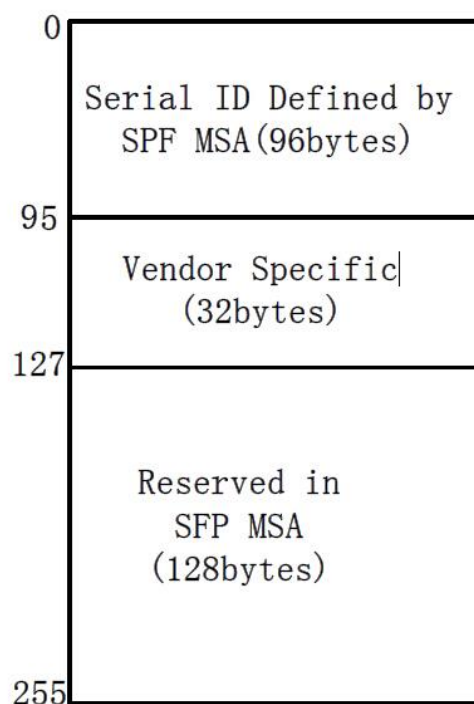
Parameter	Symbol	Unit	Min	Typ	Max
Case Operating Temperature Range	Tc	oC	-40		85
Power Supply Voltage	Vcc	V	3.13	3.3	3.47
Supply Current	Icc	mA	100		
Data rate	BR	Gb/s	1	10	11.1
Length	L	m	1		3

Table3: Specifications (Tc = -40°C to 85°C and Vcc = 3.13V to 3.47V)

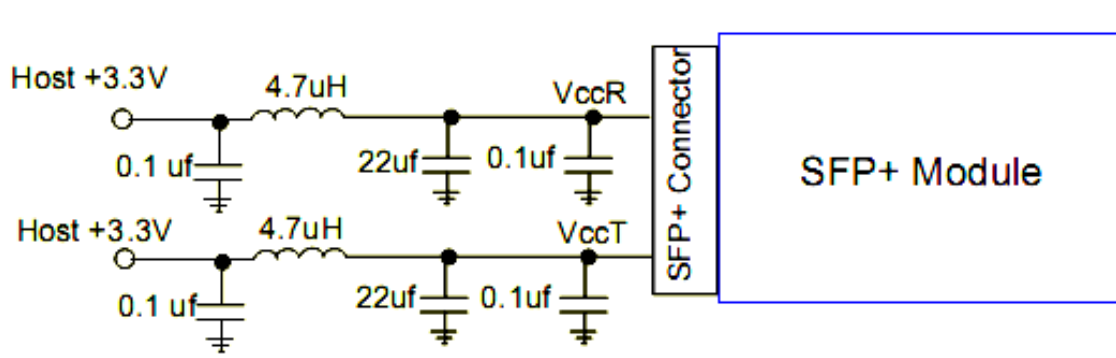
Parameter	Symbol	Min	Type	Max	Units	Notes
Transmitter						
Input Differential Impedance	ZIN	90	100	110	Ohm	
Bit Error Ratio	BER				10-12	

EQ is needed on the host board.

EEPROM Serial ID Memory Contents

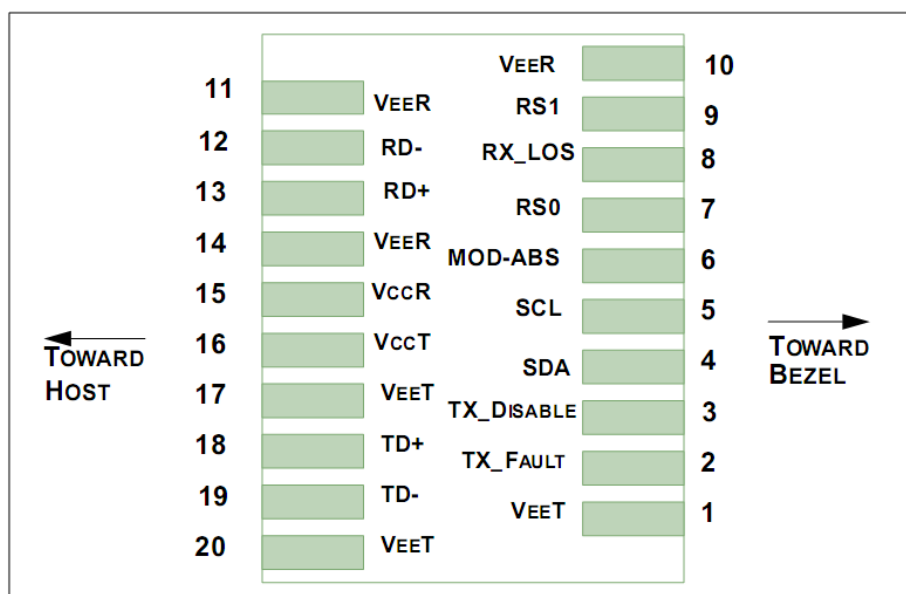


Recommended Power Supply Filtering Network



Warning: 10G SFP+CU can only be used on systems with common grounds. Connecting systems with different ground potential with SFP+ direct attach cable results in a short and may cause damage.

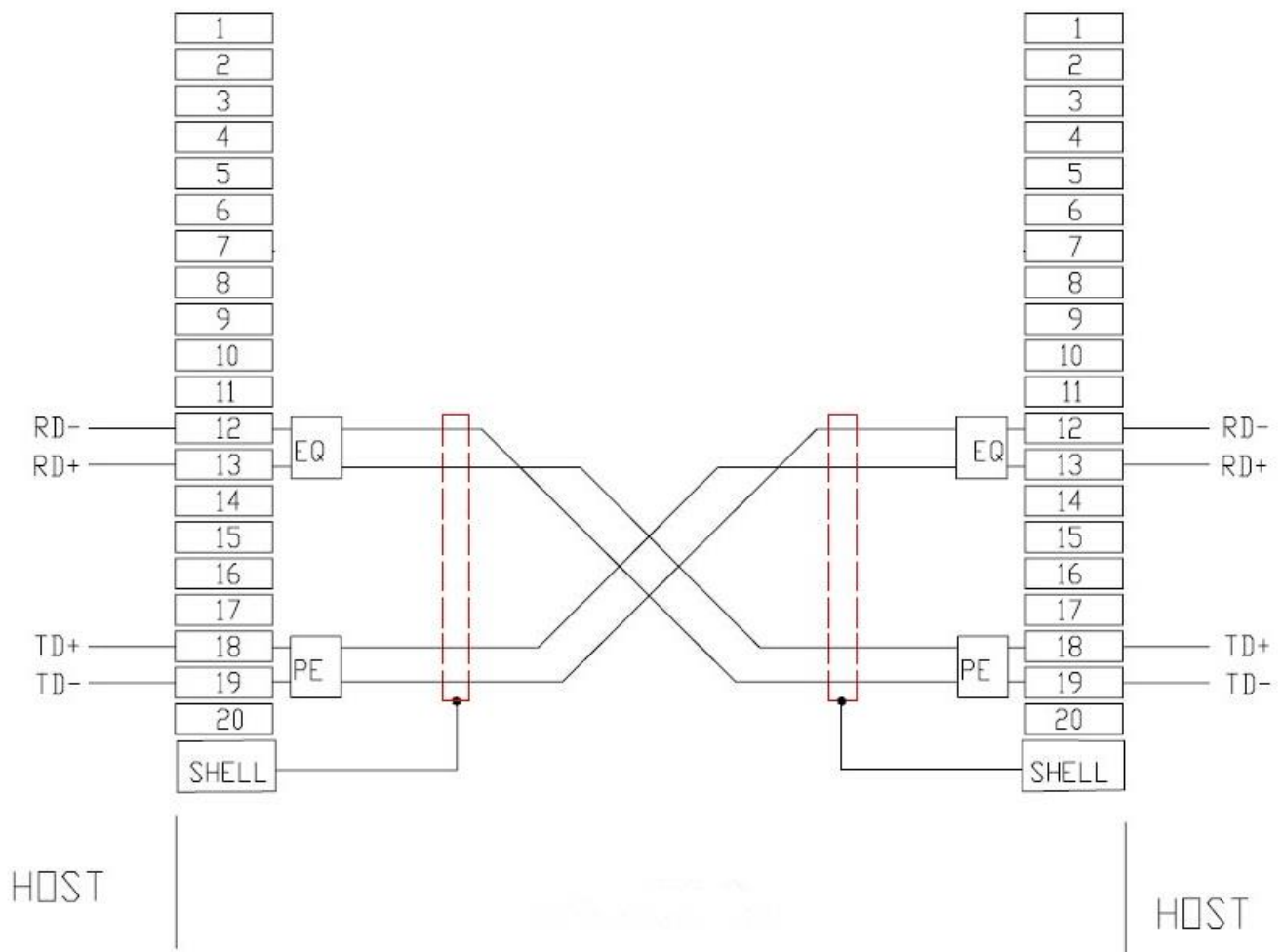
Pin Description



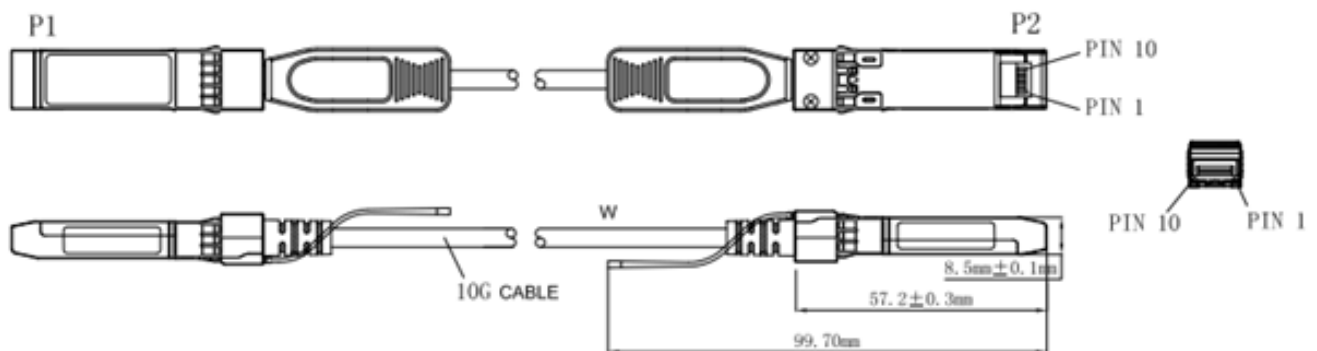
Pin	Name	Function/Description	Logic	Notes
1	VeeT	Module Transmitter Ground		
2	TX_Fault	NA		
3	TX_Disable	NA		
4	SDA	Module Definition 2-Two wire serial ID interface	LVTTL-I/O	
5	SCL	Module Definition 1-Two wire serial ID interface	LVTTL-I/O	
6	MOD_ABS	Module Absent, connected to Vee in the module		
7	RS0	NA		
8	RX_LOS	NA		

9	RS1	NA		
10	VeeR	Module Receiver Ground		
11	VeeR	Module Receiver Ground		
12	RD-	Inverse Received Data Output	CML-O	
13	RD+	Receiver Non-Inverted Data Output	CML-O	
14	VeeR	Module Receiver Ground		
15	VccR	Module Receiver 3.3 V Supply		
16	VccT	Module Transmitter 3.3 V Supply		
17	VeeT	Module Transmitter Ground		
18	TD+	Transmitter Non-Inverted Data Input	CML-I	
19	TD-	Transmitter Inverted Data Input	CML-I	
20	VeeT	Module Transmitter Ground		

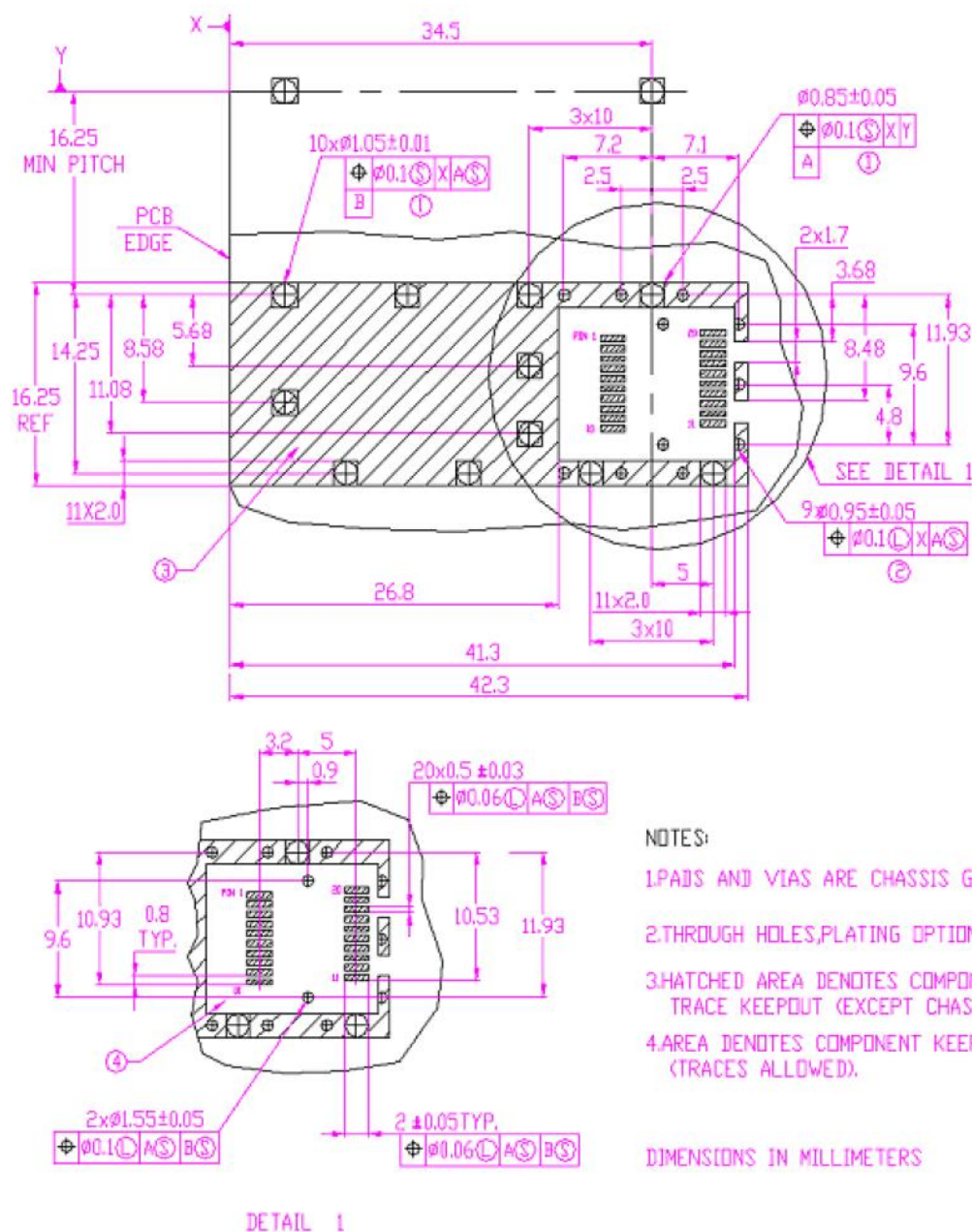
Typical application circuit



Package outline unit: mm



PCB layout recommendation



Ordering information

Part No.	Specification				Application Code
	Package	Data Rate	Temp.	Length	
FP-10GSFPCU-05	SFP+	10Gbps	-40°C~85°C	0.5 m	10 Gigabit-Ethernet
FP-10GSFPCU-1M	SFP+	10Gbps	-40°C~85°C	1 m	10 Gigabit-Ethernet
FP-10GSFPCU-3M	SFP+	10Gbps	-40°C~85°C	3 m	10 Gigabit-Ethernet
FP-10GSFPCU-5M	SFP+	10Gbps	-40°C~85°C	5 m	10 Gigabit-Ethernet