

## **FPPCCPP10G-XXM**

### **SFP+ Passive 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℃~ +85 ℃
- ✧ 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**

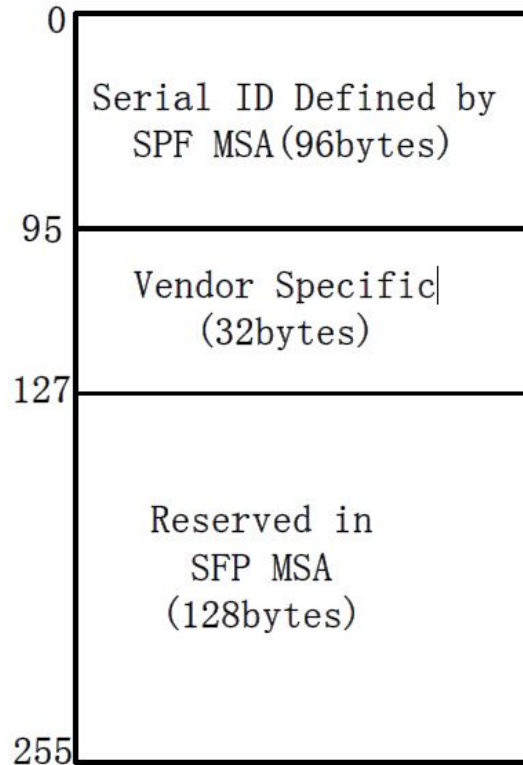
Parameter	Symbol	Unit	Min	Typ	Max
Case Operating Temperature Range	Tc	oC	-40		85
Power Supply Voltage	Vcc	V	3.13	3.3	3.47
Supply Current	Icc	mA	100		
Data rate	BR	Gb/s	1	10	11.1
Length	L	m	1		3

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

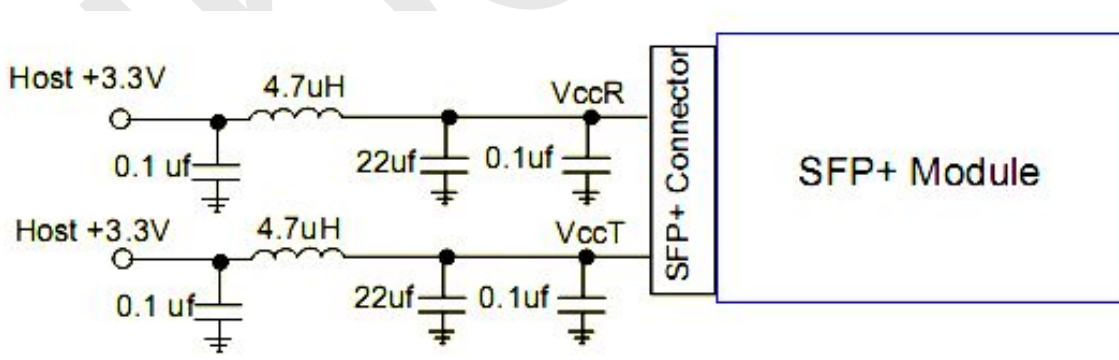
Parameter	Symbol	Min	Type	Max	Units	Notes
<b>Transmitter</b>						
Input Differential Impedance	ZIN	90	100	110	Ohm	
Bit Error Ratio	BER				10-12	

EQ is needed on the host board.

## EEPROM Serial ID Memory Contents

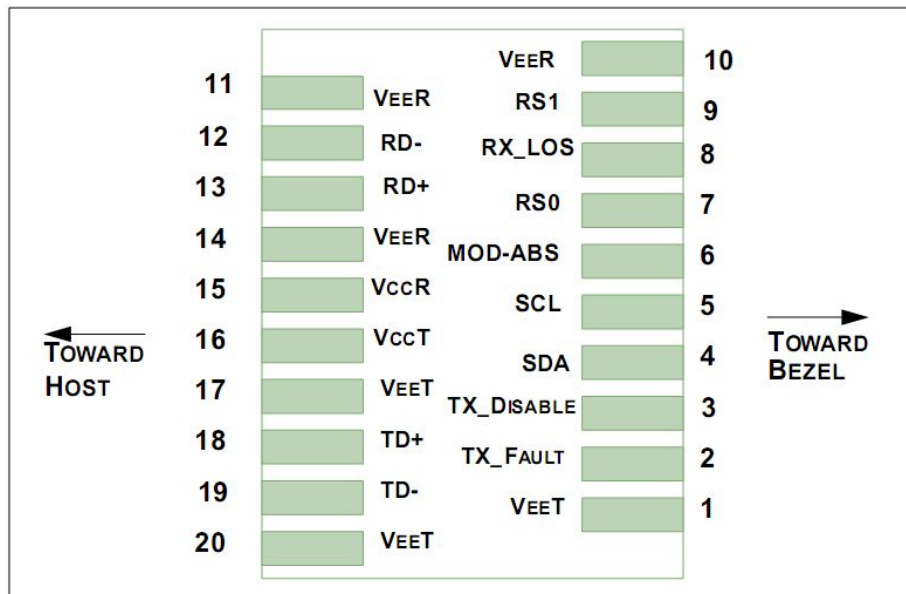


## Recommended Power Supply Filtering Network



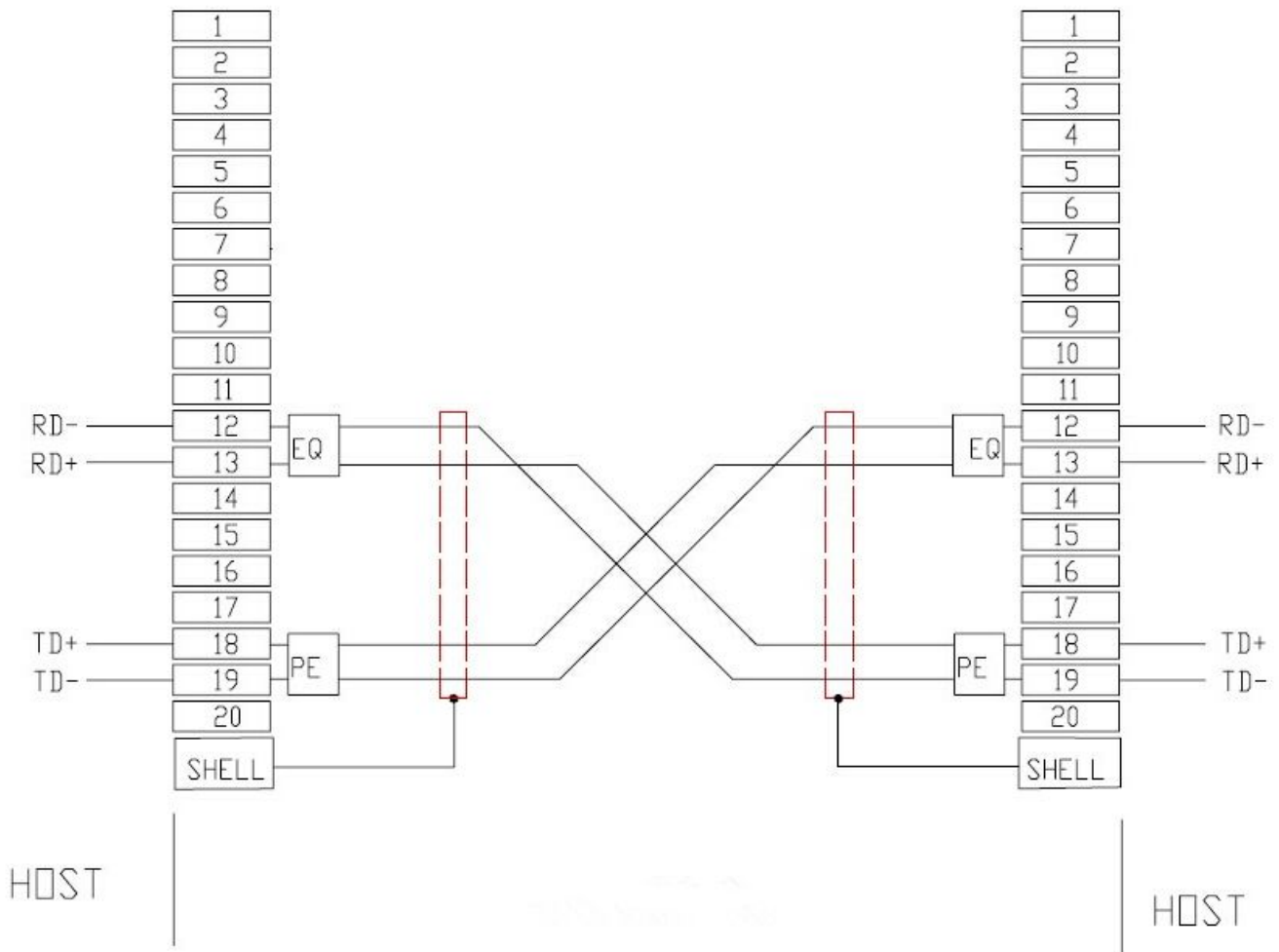
**Warning:** 10GSFP+Cu can only be used on systems with common grounds. Connecting systems with different ground potential with SFP+ direct attach cable results in a short and may cause damage.

## Pin Description

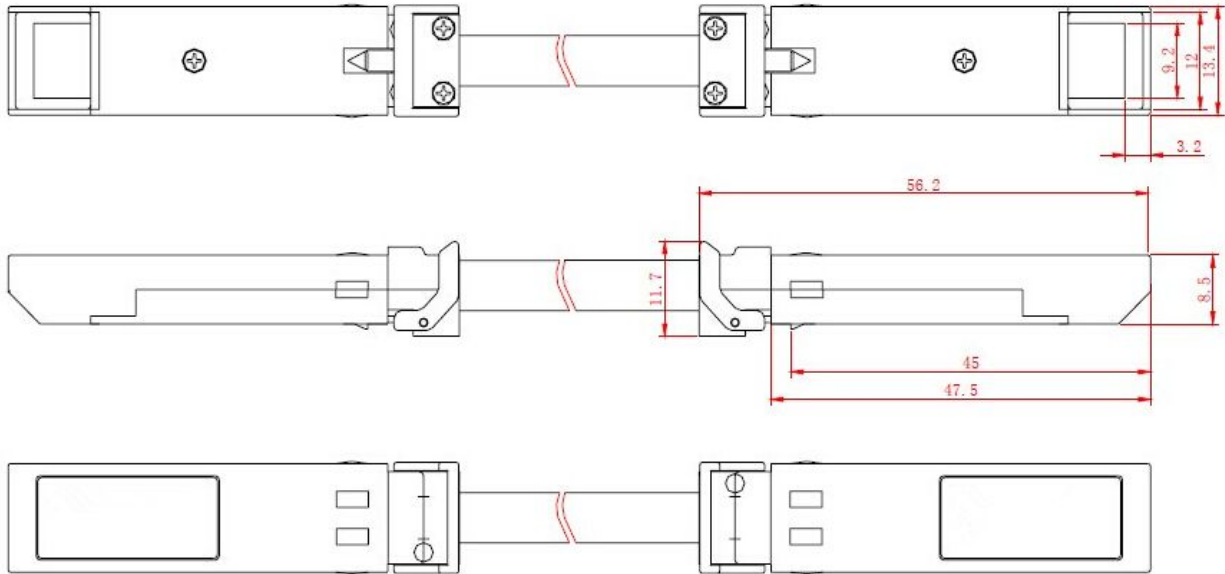


Pin	Name	Function/Description	Logic	Notes
1	VeeT	Module Transmitter Ground		
2	TX_Fault	NA		
3	TX_Disable	NA		
4	SDA	Module Definition 2-Two wire serial ID interface	LVTTTL-I/O	
5	SCL	Module Definition 1-Two wire serial ID interface	LVTTTL-I/O	
6	MOD_ABS	Module Absent, connected to Vee in the module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

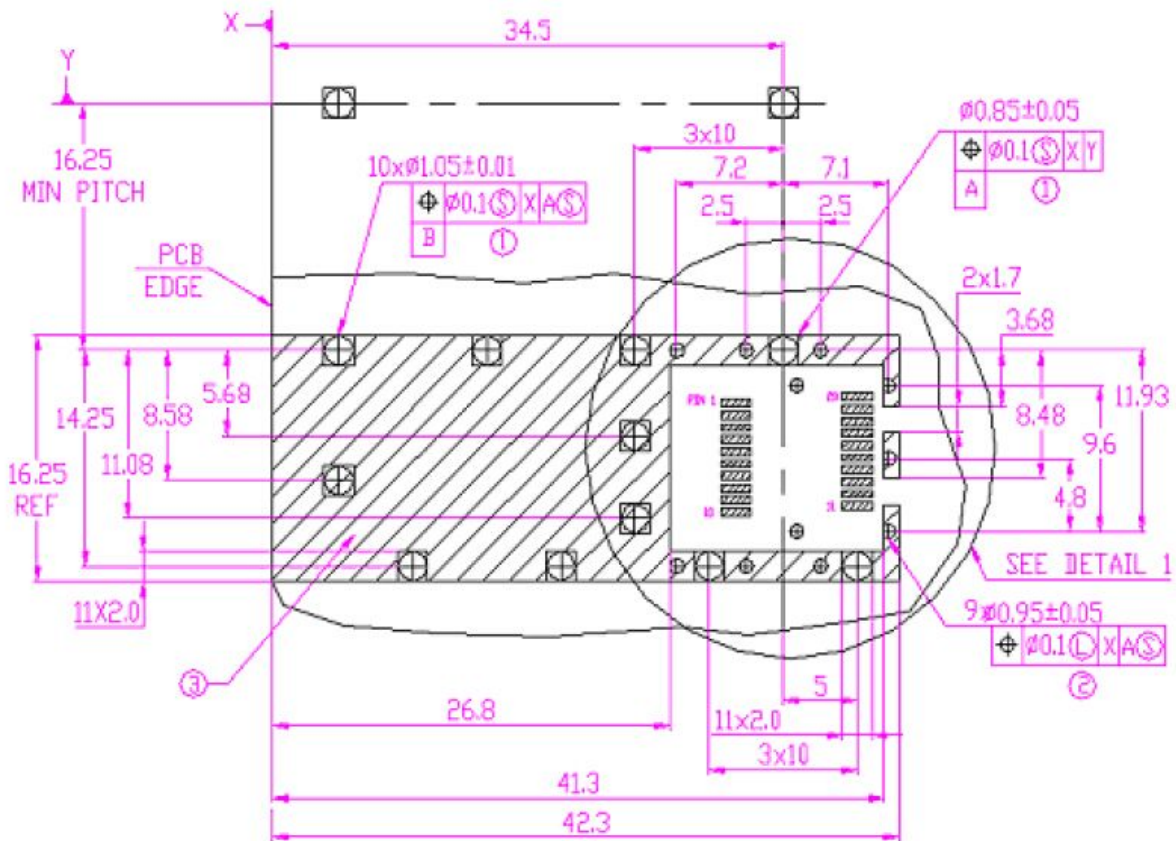
## Typical application circuit

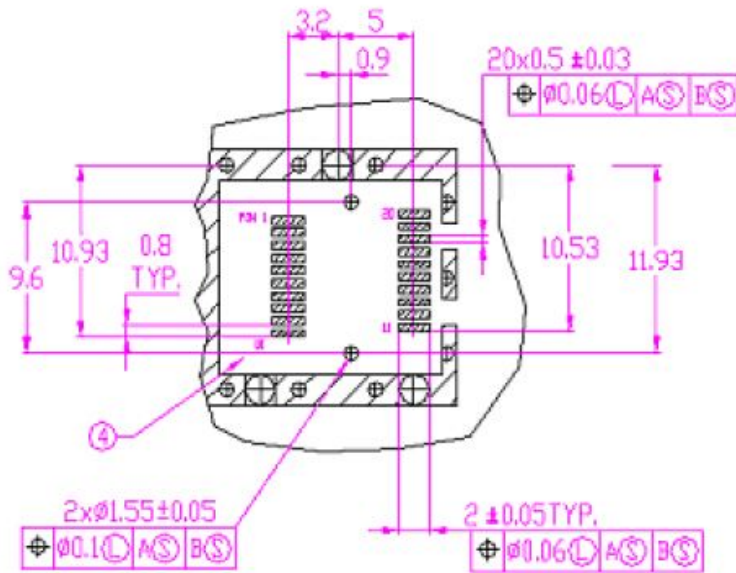


### Package outline unit: mm



### PCB layout recommendation





NOTES:

- 1.PADS AND VIAS ARE CHASSIS GROUND.
- 2.THROUGH HOLES,PLATING OPTIONAL.
- 3.HATCHED AREA DENOTES COMPONENT AND TRACE KEEPOUT (EXCEPT CHASSIS GROUND).
- 4.AREA DENOTES COMPONENT KEEPOUT (TRACES ALLOWED).

DIMENSIONS IN MILLIMETERS

DETAIL 1

## Ordering information

Part No.	Specification				Application Code
	Package	Data Rate	Temp.	Length	
FPPCCPP10G-05M	SFP+	10Gbps	-40°C~85°C	0.5 m	10 Gigabit-Ethernet
FPPCCPP10G-1M	SFP+	10Gbps	-40°C~85°C	1 m	10 Gigabit-Ethernet
FPPCCPP10G-3M	SFP+	10Gbps	-40°C~85°C	3 m	10 Gigabit-Ethernet