



Features

- Support for multi-gigabit data rates up to 10.5Gbps
- Data rates backward compatible to 1Gbps
- Hot-pluggable SFP 20PIN footprint
- I/O Connector designed for high speed differential signal applications
- Improved Pluggable Form-Factor(IPF) compliant for enhanced EMI/EMC performance
- Compatible to SFP+ MSA
- Temperature Range: 0~ 70 °C
- RoHS Compatible

Application

- High capacity 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

Description

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



SFP+10GBASE-T Copper Transceiver
Enhanced Small Form-factor Pluggable (SFP+), 3.3V
10.5Gbps Gigabit Ethernet

Ordering Information

PART NUMBER	Product Description
SFP-PEC-10G-01	SFP+ Direct Attach Passive Cable , 30AWG 1m
SFP-PEC-10G-02	SFP+ Direct Attach Passive Cable , 30AWG 2m
SFP-PEC-10G-03S	SFP+ Direct Attach Passive Cable , 30AWG 3m
SFP-PEC-10G-03	SFP+ Direct Attach Passive Cable , 24AWG 3m
SFP-PEC-10G-05	SFP+ Direct Attach Passive Cable , 24AWG 5m
SFP-AEC-10G-07	SFP+ Direct Attach Active Cable , 24AWG 7m
SFP-AEC-10G-10	SFP+ Direct Attach Active Cable , 24AWG 10m

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Storage Ambient Temperature	Ts	-40	85	°C	
Relative Humidity (non-condensation)	RS	-	85	%	
Operating Case Temperature	Tc	0	70	°C	
Supply Voltage	VCC3	-0.3	3.6	V	
Voltage on LVTTTL Input	Vilvttl	-0.3	VCC3 +0.2	V	

Recommended Operating Conditions

PARAMETER	SYMBOL	MIN	MAX	UNITS	NOTE
Operating Case Temperature	Tc	0	70	°C	
Relative Humidity (non-condensation)	RS	-	85	%	
Supply Voltage	VCC3	3.135	3.465	V	Typ. 3.3V

Systems

Performance	Media
10.5 Gpbs line speed, full duplex	Hot-pluggable, industry-standard Small Form-Factor
Bit error rate: better than 10E-12	Pluggable copper cable.



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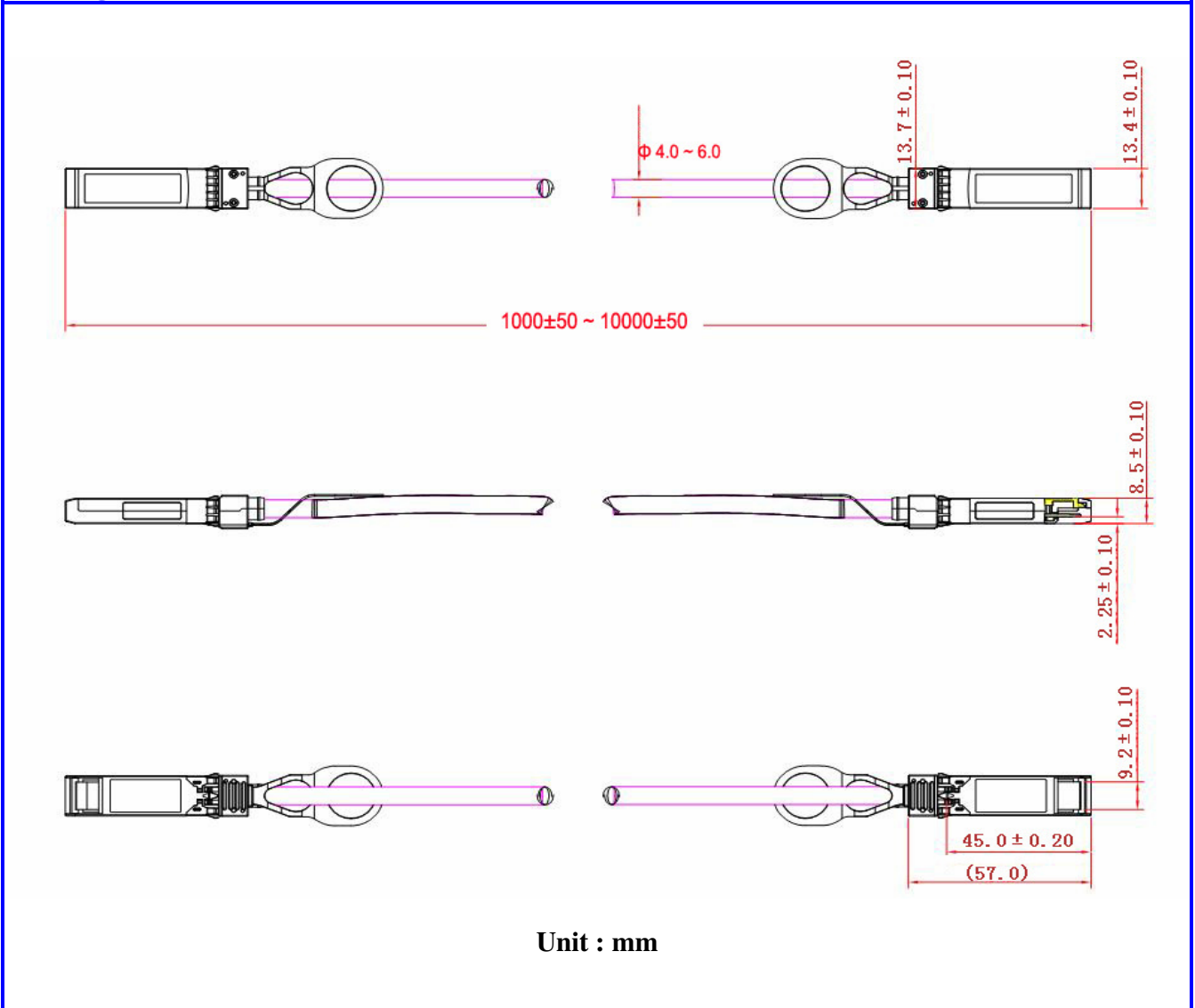
Pin Descriptions

Pin	Logic	Symbol	Name/Description	NOTE
1		VeeT	Transmitter Ground	
2	LV-TTL-O	TX_Fault	N/A	1
3	LV-TTL-I	TX_DIS	Transmitter Disable	2
4	LV-TTL-I/O	SDA	Tow Wire Serial Data	
5	LV-TTL-I	SCL	Tow Wire Serial Clock	
6		MOD_DEF0	Module present, connect to VeeT	
7	LV-TTL-I	RS0	N/A	1
8	LV-TTL-O	LOS	LOS of Signal	2
9	LV-TTL-I	RS1	N/A	1
10		VeeR	Reciever Ground	
11		VeeR	Reciever Ground	
12	CML-O	RD-	Reciever Data Inverted	
13	CML-O	RD+	Reciever Data Non-Inverted	
14		VccR	Reciever Ground	
15		VccR	Reciever Supply 3.3V	
16		VeeT	Transmitter Supply 3.3V	
17		VeeT	Transmitter Ground	
18	CML-I	TD+	Transmitter Data Non-Inverted	
19	CML_I	TD-	Transmitter Data Inverted	
20		VeeT	Transmitter Ground	

Note:

- 1) Signals not supported in SFP-xEC-10G pulled-down to VeeT with 30K ohms resistor
- 2) Passive cable assemblies do not support LOS and TX_DIS

Drawing Dimensions



Mating of SFP Transceiver to SFP Host Board Connector

The pads on the PCB of the SFP transceiver shall be designed for a sequenced mating as follows: First mate: Ground contacts. Second mate: Power contacts. Third mate: Signal contacts The SFP MSA specification for a typical contact pad plating for the PCB is 0.38 micrometers minimum hard gold over 1.27 micrometers minimum thick nickel. To ensure the long term reliability performance after a minimum of 500 insertion removal cycles, the contact plating of the transceiver is 0.762 micron (30 micro-inches) over 3.81 micron (150 micro-inches) of Ni on Cu contact pads.