



# SFP+

#### ESDPX-330INxx

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

- Support for multi-gigabit data rates up to10Gb/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: -40~ 85°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

#### **Description**

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 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.

# **Recommended Operating Conditions**

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Tc	-40		+85	°C
Power Supply Voltage	Vcc3	3.14	3.3	3.47	V
Power Dissipation	PD			0.2	W

## **Systems**

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

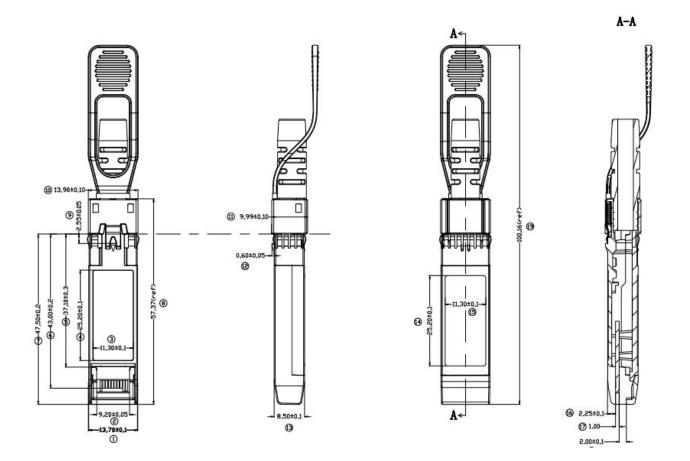
# **Pin Descriptions**

Pin	Logic	Symbol	Name/Description	Notes
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	Receiver Ground	
11		VeeR	Receiver Ground	
12	CML-O	RD-	Receiver Data Inverted	
13	CML-O	RD+	Receiver Data Non-Inverted	
14		VeeR	Receiver Ground	
15		VccR	Receiver Supply 3.3V	
16		VccT	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	

<sup>1)</sup> Signals not supported in SFP+ Copper pulled-down to VeeT with 30K ohms resistor

2) Passive cable assemblies do not support LOS and TX\_DIS

### **Mechanical Dimensions**



### **Important Notice**

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by company before they become applicable to any particular order or contract. In accordance with company policy of continuous improvement specifications may change without notice. The publication of information in this data sheet does not imply freedom from patent or other protective rights of company or others. Further details are available from any company sales representative.

### **Ordering information**

Part Number	ESDPX-330INxx														
Length (meter)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Wire gauge (AWG)	30	30	30	24	24	24	24	24	24	24	24	24	24	24	24

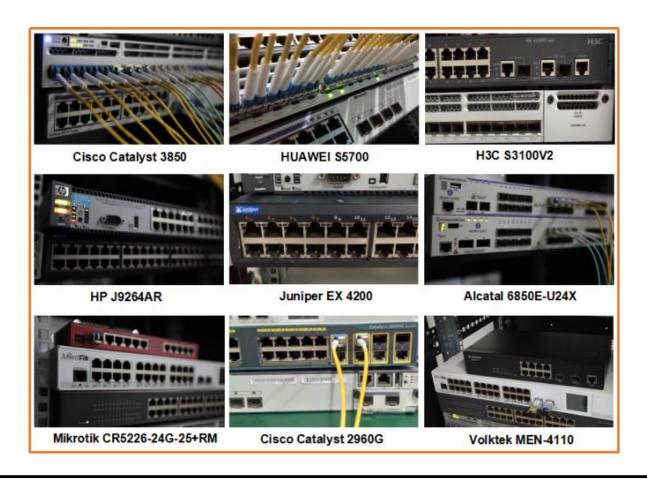
## **Regulatory Compliance**

Feature	Reference	Performance		
Electrostatic discharge (ESD)	IEC/EN 61000-4-2	Compatible with standards		
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN 55022 Class B (CISPR 22A)	Compatible with standards		
Laser Eye Safety	FDA 21CFR 1040.10, 1040.11 IEC/EN 60825-1, 2	Class 1 laser product		
Component Recognition	IEC/EN 60950, UL	Compatible with standards		
ROHS	2002/95/EC	Compatible with standards		
EMC	EN61000-3	Compatible with standards		

### **Compatibility Test**

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can compatible with many mainstream brand switches, such as Cisco, Juniper, Extreme, Brocade, IBM, H3C, HP, Huawei, D-Link, Mikrotik, ZTE, TP-Link...

Our test equipment: VOLKTEK MEN-4110, HP 2530-8G, CRS226-24G-25+RM, Catalyst 2960G Series, Catalyst 3850 XS 10G SFP+, Catalyst 3750-E Series, HUAWEI S5700Series, H3C S3100V2 Series, Juniper-EX4200, etc.



# **Quality Assurance**

Continuous introduction of new equipment, produced by strict standards, strict quality inspection, to guarantee the high quality standard of each product.



# **Packaging**

#### Individual package.



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