

Preliminary DATA SHEET

**CFORTH-SFP-H10GB-ACUxM
11Gb/s SFP+ (Small Form Pluggable) Active Copper Cable Assembly**

CFORTH-SFP-H10GB-ACUxM Overview

CFORTH-SFP-H10GB-ACUxM SFP+ Active Copper Cable assemblies are designed for operation in short connection using Fiber Channel and 10G Ethernet networking equipment. It is integrated with Amphenol Spectra-Strip SkewClear cable, the completed assembly spans 15 meters and operates up to 11Gb/s. The transmitter pre-emphasis can be configured to best compensate for different cable lengths. Active copper assemblies are typically used in host systems that do not employ EDC.

Product Features

- Up to 11 Gb/s bi-directional data links
- Dual SFP+ Connectors
- Industry standard small form pluggable (SFP+) package
- Spans up to 15 meters
- Hot Pluggable
- Single power supply 3.3V
- RoHS Compliant
- Operating temperature range: 0°C to 70°C

Applications

- 10G Ethernet
- 10G Fiber Channel

Ordering Information

Part Number	Description
CFORTH-SFP-H10GB-ACU7M	11 Gb/s SFP+ Active Copper Cable, 7m
CFORTH-SFP-H10GB-ACU10M	11 Gb/s SFP+ Active Copper Cable, 10m

CFORTH-SFP-H10GB-ACUxM Specifications Rev. D00D

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Operating Current	I_{OP}			400	mA	
Maximum Voltage	V_S	- 0.5		6	V	1

Notes:

1. for electrical interface

General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Data Rate	DR	0.155		11	Gb/s	1
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_{OP}	0		70	°C	2
Storage Temperature	T_S	- 40		85	°C	3
Input Voltage	V_{CC}	3.14	3.3	3.46	V	
Supply Current	I_{CC}		100	300	mA	4

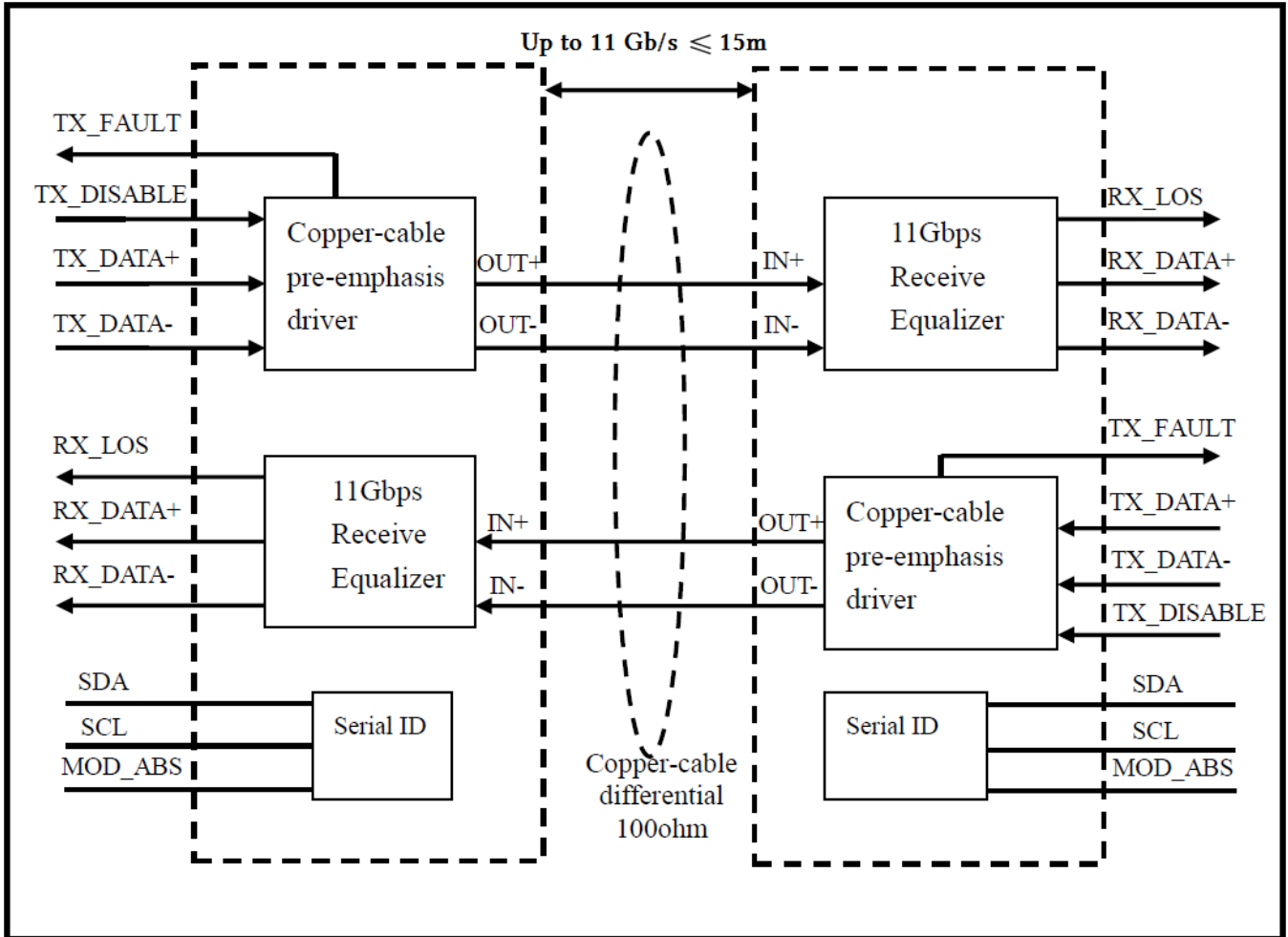
Notes:

1. IEEE 802.3ae compatible
2. Case temperature
3. Ambient temperature
4. for electrical interface

Cable Mechanical Specifications

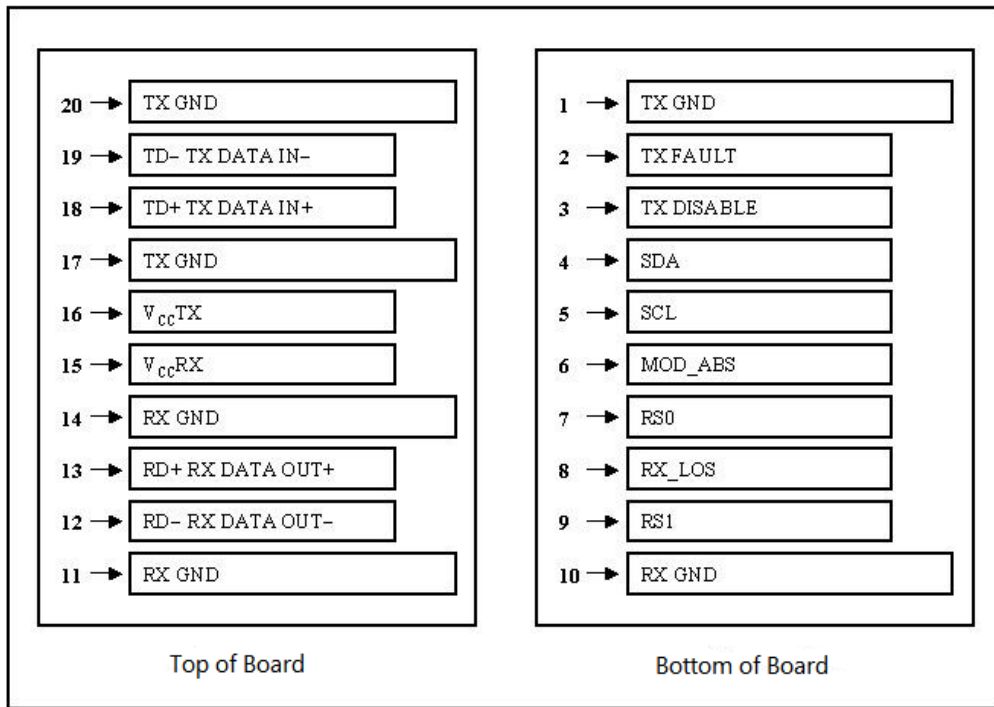
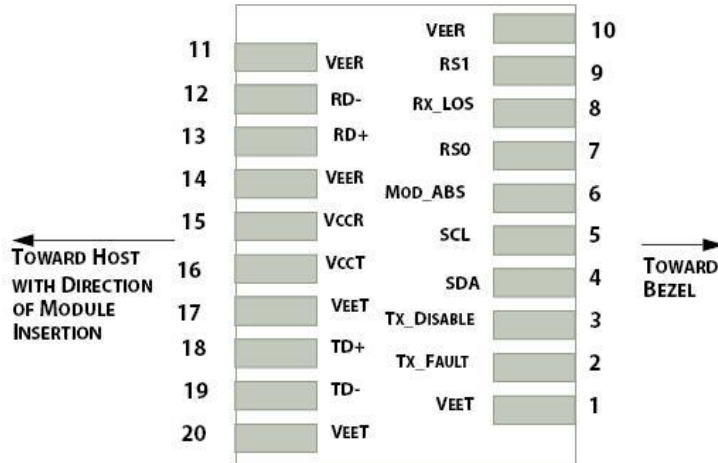
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Cable Impedance	Z	95	100	105	Ohm	

Block Diagram of Transceiver



Active cable assembly has signal amplification and equalization in the assembly. Active copper assemblies are typically used in host systems that do not employ EDC. Active SFP+ cable assemblies also incorporate Rx LOS and Tx Disable features. Active cable assembly has built-in MCU, offer a number of additional host-management capabilities. I2C (Inter-IC bus protocol) interface and on-board EEPROM features enable the host to detect or configure specific performance characteristics.

Electrical Pad Layout



Pin Assignment

PIN #	Symbol	Description	Remarks
1	V _{EET}	Transmitter ground (common with receiver ground)	
2	T _{FAULT}	Transmitter Fault.	
3	T _{DIS}	Transmitter Disable.	
4	SDA	2-wire Serial Interface Data Line	
5	SCL	2-wire Serial Interface Clock Line	
6	MOD_ABS	Module Absent. Grounded within the module	

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7	RS0	No connection required
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1	No connection required
10	V _{EER}	Receiver ground (common with transmitter ground)
11	V _{EER}	Receiver ground (common with transmitter ground)
12	RD-	Receiver Inverted DATA out. AC coupled
13	RD+	Receiver Non-inverted DATA out. AC coupled
14	V _{EER}	Receiver ground (common with transmitter ground)
15	V _{CCR}	Receiver power supply
16	V _{CCT}	Transmitter power supply
17	V _{EET}	Transmitter ground (common with receiver ground)
18	TD+	Transmitter Non-Inverted DATA in. AC coupled
19	TD-	Transmitter Inverted DATA in. AC coupled
20	V _{EET}	Transmitter ground (common with receiver ground)

References

1. IEEE standard 802.3ae. IEEE Standard Department, 2005.
2. Enhanced 8.5 and 10 Gigabit Small Form Factor Pluggable Module "SFP+" – SFF-8431 (FC-PH/PH2/PH3).