

SFP/SFP+

Amphenol has developed a fully featured low cost alternative to multi-mode optical SFP+ assemblies. Our optical alternative uses copper assemblies with incorporated features such as TX disable and loss of signal. Utilizing this cable solution will be transparent to the system as it behaves as though it is optical. Another benefit in addition to the price point is the significant reduction in power consumption as our units use 250 mW vs. 500 mW seen on most optical modules. Amphenol High Speed Assemblies are ultra-high performance, cost effective solutions for gigabit speed applications in data and switched fabric I/O, switches, routers, data storage arrays, and computer clusters. Amphenol's High Speed Assemblies meet and exceed industry standards and have been tested to work at double the specified rates. The Small Form Factor Pluggable (SFP) standard offers a solution to Fiber Channel, Gigabit Ethernet (GbE) and SONET/SDH high speed links as well as other proprietary applications.

Interface

- › Small Form Factor Pluggable

Cable Options

- › Twin Axial SkewClear™ 2 Pair

Key Features

- › Compliant with Optical Ports
- › I/O Connector designed for high speed differential signal applications
- › Low crosstalk
- › Low power consumption
- › EMI shield spring for reduced EMI
- › Wide temperature range
- › Data rates of up to 4.25Gbps for SFP and 11.3Gbps for SFP+ guaranteed
- › Push to release latch
- › Compliant to SFP & SFP+ MSA

Optical Alternative

Active Copper Assembly



Applications

- › Storage Area Networks, Network Attached Storage, and Storage Servers
- › Switched fabric I/O such as ultra high bandwidth switches and routers
- › Telecomm transport to metro or enterprise hand-off and transport to switching i/f
- › Data center cabling infrastructure
- › High density connections between networking equipment

Fibre Channel products
fc@aipce.com

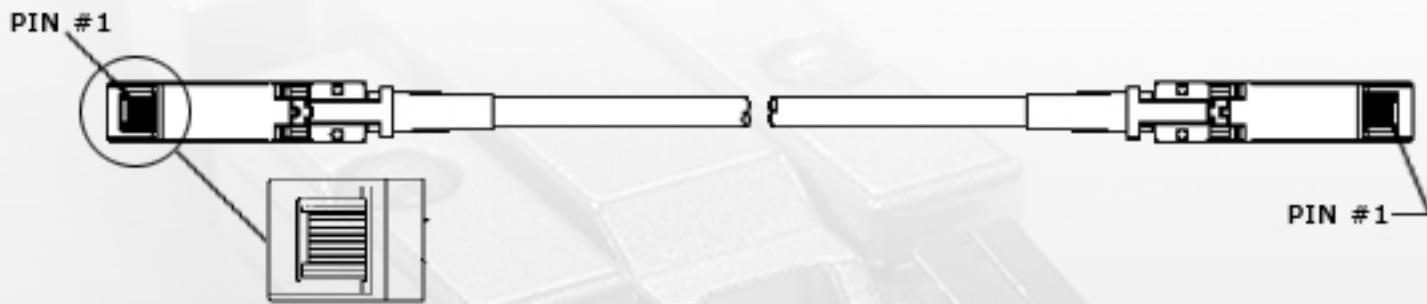
SFP Active Copper Modules

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature Range	TA	-20	--	85	C
Supply Voltage	V _{CCR} , V _{CTC}	--	3.3	4.0	V
Supply Current (per cable end)	I _{CC}	--	70	80	mA
Data Rate	DR	--	--	4.25	Gbps
Transmitter					
Differential Input Voltage Swing	V _{DIFF}	100	--	1800	mV _{p-p}
Receiver					
Differential Output Voltage Swing	V _{DIFF}	--	600	--	mV _{p-p}
Data Output Rise Time / Fall Time	t _R , t _F	--	--	120	ps

Supported Length

0.5 meters to 5 meters typical & customer specific requirements



Pin	Logic	Symbol	Name/Description	Note
1		V _{EE} T	Transmitter Ground	
2	LV-TTL-O	TX_Fault	Transmitter Fault	1
3	LV-TTL-I	TX_DIS	Transmitter Disable	
4	LV-TTL-I/O	SDA	Two Wire Serial Data	
5	LV-TTL-I	SCL	Two Wire Serial Clock	
6		MOD_DEF0	Module present, connect to V _{EE} T	
7	LV-TTL-I	Rate Select	Rate Select	2
8	LV-TTL-O	LOS	Loss of Signal	
9	LV-TTL-I	V _{EE} R	Receiver Ground	
10		V _{EE} R	Reciever Ground	
11		V _{EE} R	Reciever Ground	
12	CML-O	RD-	Reciever Data Inverted	
13	CML-O	RD+	Reciever Data Non-Inverted	
14		V _{EE} R	Reciever Ground	
15		V _{CC} R	Reciever Supply 3.3V	
16		V _{CT} C	Transmitter Supply 3.3V	
17		V _{EE} T	Transmitter Ground	
18	CML-I	TD+	Transmitter Data Non-Inverted	
19	CML-I	TD-	Transmitter Data Inverted	
20		V _{EE} T	Transmitter Ground	

1. Connected to V_{EE}T

2. Connected thru 33k resistor to V_{EE}T