

# ExpressPort™ SFP+ 1X1 Connector

Product Specification S6017C Rev 2.1

Amphenol

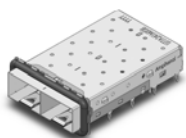
*Now you're connected!*

## About Amphenol Commercial Products

Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

## Related Products

### SFP + 1xN Cage

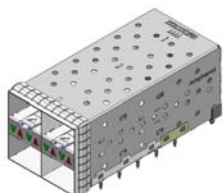


1x2 CAGE WITH ELASTOMERIC GASKET

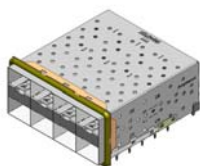


1x6 CAGE WITH ELASTOMERIC GASKET & LIGHT PIPES

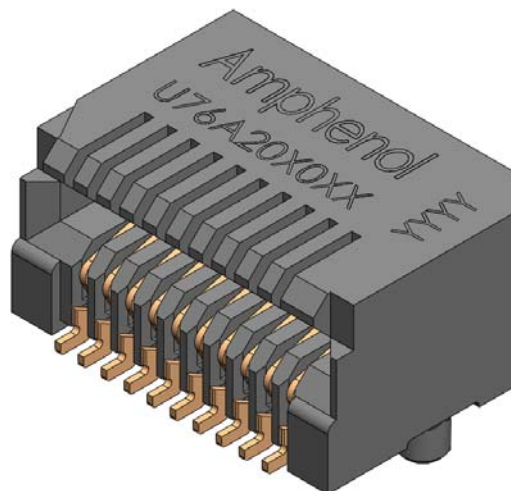
### SFP+ 2xN Combos



2x2 CONNECTOR AND CAGE WITH EMI SPRING FINGERS AND LIGHT PIPES



2x4 CONNECTOR AND CAGE WITH ELASTOMERIC GASKET



20 POSITION CONNECTOR

## Overview

This short form Product Specification defines the general usage and performance requirements for Amphenol's SFP+ series of single port connectors.

The interconnect system comprises of pluggable transceiver connector and cage assembly. Designed to meet or exceed the requirements of INF8074, SFF-8083, SFF-8431 and SFF-8081 (resonance dampening version).

Availability: In production

## Usage

Capable of data rates above 10 Gbps.

Can be used with:

- Copper modules with HSSDC2 I/O
- Optical modules with MTRJ, LC I/O

## Applications

- Network switches
- Routers
- Servers
- Storage devices
- Adapter cards

# Now you're connected!

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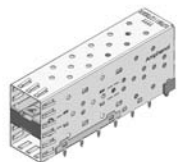
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## Related Products

### SFP



SFP 20 POSITION CONNECTOR



2x1 CONNECTOR AND CAGE



1x4 SFP WITH ENHANCED EMI TABS



2x6 CONNECTOR AND CAGE

Supporting multiple data transfer protocols:

- 10 Gigabit Ethernet
- SONET
- Fiber Channel
- InfiniBand

## General Requirements

RoHS compliant

PCB SMT mountable connector in lead-free solder reflow compatible material, UL 94V-0 rated

Cage is footprint compatible with standard SFP connector (SFF-8083)

Single piece solder mount or press fit cage for minimum 1.45mm (0.57") PCB thickness

Belly to belly mountable for minimum 3.00mm (0.118") PCB thickness

Operating temperature: -55° to +85°C

Storage temperature: -55° to +85°C

Dust covers available

Connector has alignment posts and includes standoffs and a pin #1 identifier.

## Electrical Characteristics

Operating voltage: 30 V

Rated current: 0.5 A

Dielectric withstanding voltage: 300V AC

Insulation resistance: 1000 MΩ

DWV 300V DC for 60 seconds

Differential impedance: 100Ω +/-10Ω

Common mode impedance: 25Ω

Differential insertion loss: -0.5dB (0.25 to 5 Ghz) and -0.5-5.77\*log (f/5GHz) dB (5.0 to 15GHz)

Differential return loss: -15dB (.25 to 5Ghz) -15+30\*log (f/5GHz) dB (5.0 to 11.1 Ghz)

## Mechanical Characteristics

20 position, 0.8 mm pitch SMT receptacle

Card entry slot accepts 1.0 mm thick integrated circuit cards per INF-8074i

Coplanarity spec 0.10 mm

Durability of 250 mating cycles

## Material Requirements

Unless otherwise specified, the materials for each component shall be:

- Contacts: Copper alloy
- Plating: Options include 30 μ" or 15 μ" min Gold over 50 μ" min Nickel in contact areas. Solder tails have matte tin or gold flash options
- Cage: Copper alloy
- Plating: Options include Nickel plating, bright tin or matte tin over nickel
- Housing: lead-free solder reflow process compatible thermoplastic, UL 94 V-0 rated

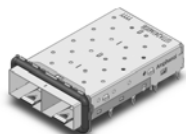
# Now you're connected!

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### SFP + 1xN Cage

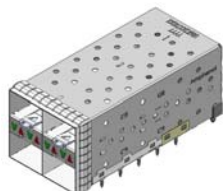


1x2 CAGE WITH ELASTOMERIC GASKET

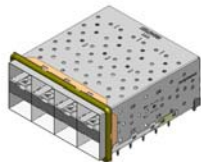


1x6 CAGE WITH ELASTOMERIC GASKET & LIGHT PIPES

### SFP+ 2xN Combos



2x2 CONNECTOR AND CAGE WITH EMI SPRING FINGERS AND LIGHT PIPES



2x4 CONNECTOR AND CAGE WITH ELASTOMERIC GASKET

## Process Characteristics

Standoffs provided on connectors for post-soldering cleaning

Connectors are tape and reel packaged

Cages offered in various mounting options (refer to S6021C)

Maximum process temperature during soldering is 260°C for 10 seconds

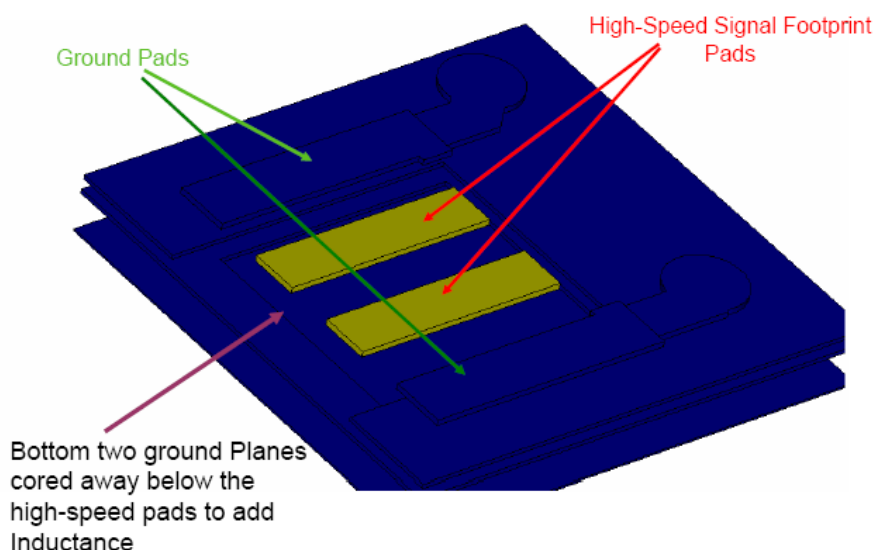
Belly-to-belly placement possible, allowing for two cages to mount on opposite sides of PCB

## Resonance Dampening Options

A version of this connector is also available with a ground commoning device to provide better common mode performance and reduced crosstalk at resonance frequencies. This option can be selected using part # UE76-A20-X010T where X designates plating options.

## PCB Recommendations

Although the footprint is defined by the standard SFF-8083, there are things that can be done to optimize the performance of the connector interface to the motherboard. Coring out the ground plane as described below can help reduce impedance discontinuities.



## Available Documents

### Drawing Numbers:

P-UX76-A20-X00XX

P-UE76-A20-X01XT

Expressport SFP+ 1X1 Connector

Expressport SFP+ 1X1 Connector with Resonance Dampening

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