SFP+ Product Family:
Cages
Connectors
Cable assemblies

DESCRIPTION

SFP+ extends the use of the Small Form-Factor Pluggable (SFP) interconnect up to 10 Gb/s. This system meets the performance requirements of SFF (Small Form-Factor) specification SFF-8431 and supports 8G Fibre Channel and 10G Ethernet applications. The SFP+ product family includes cages, connectors, and copper cable assemblies. Tyco Electronics also offers LC optical connectors and cable assemblies to link with SFP+ transceivers.

APPLICATIONS

- Storage
- Servers
- Networking
- Switches
- Routers
- Hubs
- Network Interface Cards (NICs)

KEY FEATURES & BENEFITS

- SFP+ interconnect system supports data rates of 10 Gb/s
- Connector and cable assembly designed to support 10 Gb/s+ signal speeds, backward compatible with SFP
- Both EMI spring and gasket options for cages provide excellent shielding
- All cage configurations are offered with light pipes for LED applications
- Heat sink optional for single port cages
- Cages are available for PCI card applications (one degree mounting angle)
- Cages and cable assemblies accommodate belly-to-belly mounting
- Stacked cages include integrated high speed connector using patented "clicklet" construction.
- Active and passive copper cable assemblies provide a cost-effective solution for short reach applications.
- Cable assembly braid crimp and EMI skirt suppress EMI radiation.
- Broad line of cable assembly lengths and wire gauges offers diverse cable management options.
- Optimum cable assembly performance is obtained when assembly is engineered to system architecture.

FOR MORE INFORMATION

Technical Documents:

Application Specification
Single & Ganged Cages 114-13120
Stacked Cages 114-13219

Product Specification 108-2331

Industry Standards:

Cage and module definition: SFF-8432

Mating Interface and performance requirements: SFF-8083

Electrical Interface Specifications: SFF-8431

Cages and Connectors
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PART NUMBERS

Cages with EMI Springs

Description	Single Port	1x2	1x4	1x6
Cage Assy w/ Light Pipes	2007254-1	2007262-1	2007178-1	2007250-1
Cage Assy	2007198-1	2007263-1	2007132-1	2007251-1
Cage Assy w/ PCI Heat Sink	2007464-1	—	—	—
Cage Assy w/ SAN Heat Sink	2007464-2	—	—	—
Cage Assy w/ Networking Heat Sink	2007464-3	—	—	—

Cages with Elastomeric Gaskets

Description	1x2	1x4	1x6
Cage Assy w/ Light Pipes	2007180-1	2007093-1	2007169-1
Cage Assy	2007181-1	2007135-1	2007170-1

Cages for PCI Applications

- One degree mounting angle to meet requirements of SFF-8075

Description	Solder	Press-Fit
Cage Assy	2007194-1	2007215-1
Cage Assy w/ PCI Heat Sink & Clip	2007193-1	2007277-1

Connectors

Contact Plating	Part Number
0.76μm (30 μin) gold	1888247-1
0.38μm (15 μin) gold	1888247-2

PART NUMBERS

Stacked SFP+ Cage/Connector Assemblies

Description

EMI Containment Style	Light Pipe Option	2x1	2x2	2x4	2x6
Elastomeric Gasket	Four Per Column	2007538-5	2007417-5	2007399-5	2007567-5
Elastomeric Gasket	Inner Light Pipes Only	2007538-6	2007417-6	2007399-6	2007567-6
Elastomeric Gasket	Outer Light Pipes Only	2007538-7	2007417-7	2007399-7	2007567-7
Elastomeric Gasket	None	2007538-8	2007417-8	2007399-8	2007567-8
EMI Springs	Four Per Column	2007492-5	2007637-5	2007394-5	2007562-5
EMI Springs	Inner Light Pipes Only	2007492-6	2007637-6	2007394-6	2007562-6
EMI Springs	Outer Light Pipes Only	2007492-7	2007637-7	2007394-7	2007562-7
EMI Springs	None	2007492-8	2007637-8	2007394-8	2007562-8

Tin plated compliant pins listed, tin-lead compliant pins available for signal connector.
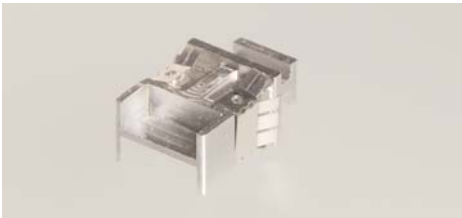See Tyco Electronics drawing.

Dust Plug (Non-conductive)

For Uses In	Part Number
Single Port Cages	1367147-1 or 1761394-1
Ganged and Stacked (Multi-port) Cages	1761394-1

Dust plug 1761394-1 has narrow width, required for port density in ganged and stacked cages.

EMI Plug

- **Part Number: 1888901-1**
- Springs comply with SFF-8432 requirements for Improved Pluggable Form-factor (IPF)

PART NUMBERS

Direct Attach Copper Cables

The Tyco Electronics SFP+ direct attach copper cable assembly is a low cost alternative for short reach applications. The design allows for a serial data transmission up to 10Gbps in each direction. These SFP+ assemblies are hot swappable and the programmed EEPROM signature enables the host to differentiate between a copper cable assembly and a fiber optic module. The mechanical design of the braid crimp and EMI skirt ensure that EMI radiation is sufficiently suppressed. Additionally, the copper cable acts as a natural heat sink. The low power consumption assists in making the passive copper cable assembly an economic solution for within rack, or rack to rack applications. Standard SFP+ assemblies are offered in 24 AWG, however, several smaller wire gauges are available.

Product Facts

- Truly broadband — operates from 1 Gbps to 10 Gbps
- Compatible with industry standard SFP cages
- 100 Ohm differential impedance
- 3.3 V input source voltage
- EEPROM signature which can be customized
- Pull-to-release retractable pin latch design
- Pull tab allows compact belly-to-belly application
- 360 degree cable braid crimp and enhanced EMI skirt
- Various wire gauges provide diverse cable management options
- Breakout and cross-over cables can be engineered
- Able to custom engineer SFP+ cable solutions to system architecture
- Uses Madison Cable high speed TurboTwin parallel pair copper cable

Type	Part Number	AWG	Assembly Length
Standard Passive	2032237-1	24	0.5 meter
	2032237-2	24	1 meter
	2032237-4	24	3 meter
	2032237-6	24	5 meter
	1-2032237-1	24	10 meter
Other AWG Passive	2032247-1	26	0.5 meter
	2032247-2	26	1 meter
	2032247-4	26	3 meter
	2032247-6	26	5 meter
	1-2032247-1	26	10 meter
	2053649-1	28	0.5 meter
	2053649-2	28	1 meter
	2053649-4	28	3 meter
	2053649-6	28	5 meter
	2052246-1	30	0.5 meter
	2052246-2	30	1 meter
	2052246-4	30	3 meter
	2052246-6	30	5 meter
Active (Coming Soon)	2032757-1	24	1 meter
	2032757-5	24	5 meter
	1-2032757-0	24	10 meter
	1-2032757-5	24	15 meter

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