

XMULTIPLE

**XSFP Series of Small Form-Factor Pluggable
SFP, SFP + EMI Cages and Connectors**

Xmultiple Technology SFP Products Information





SFP Products

- Fiber Channel**
- InfiniBand**
- Ethernet**

SFP Product Types

- Optic Modules**
- SFP System**
- Copper HSSDC2 Module**
- HSSDC2 Cable Assemblies**
- PT Connectors**



SFP History

- **Specification released 1999**
- **50% size of GBIC**
- **1,2,4 Gb/s capable**
- **PT 20 Pin connector**
- **Stamped metal guide/cage**
- **Optical Modules LC/ MTRJ**
- **Copper Modules**
- **HSSDC2**
- **Stacked Cages**



APPLICATIONS:

Equipment

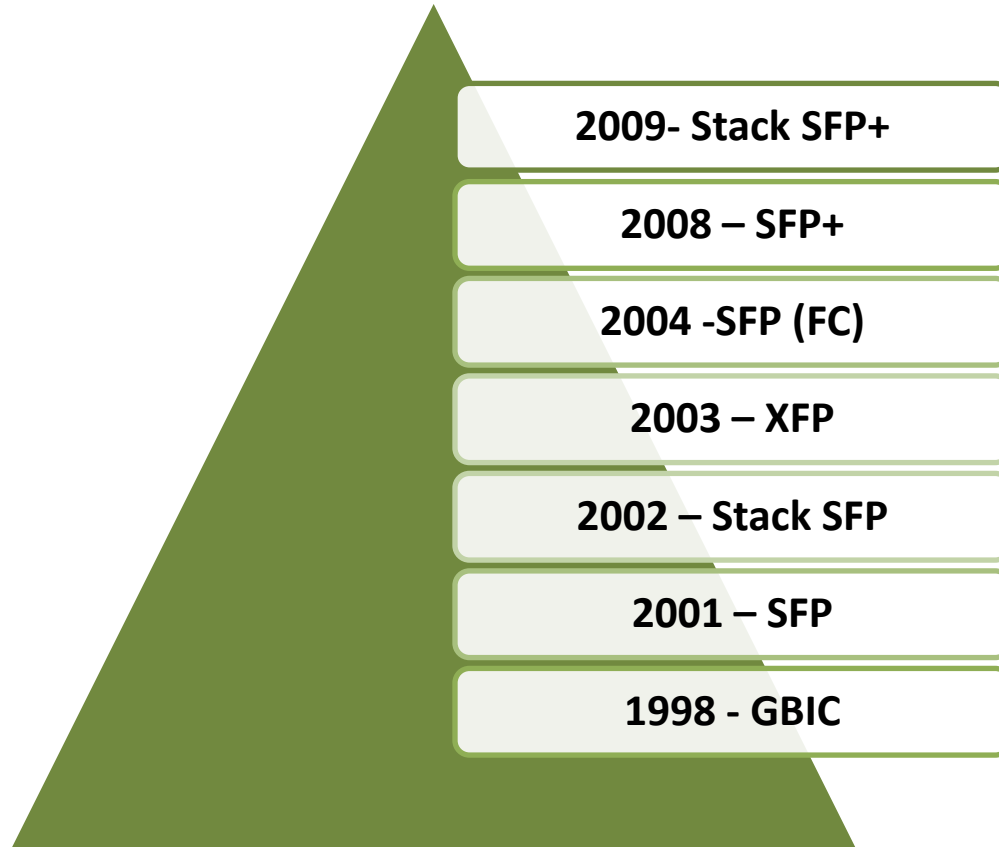
- Routers/Bridges/Hubs
- Switches
- Host Bus Adapters
- Storage
- NIC (Network Interface Card)

Markets

- Telecom
- Datacom
- Networking
- Industrial Computer
- Storage Area Networks (SAN)



SFP Roadmap (Years) :





How It All Fits Together:

EMI Cages

SFP
Connectors

SFP
Loopback

HSSDC-2
Cables

SFP
PatchCords

SFP
Module
with
HSSDC-2
Interface



20 Position Connector

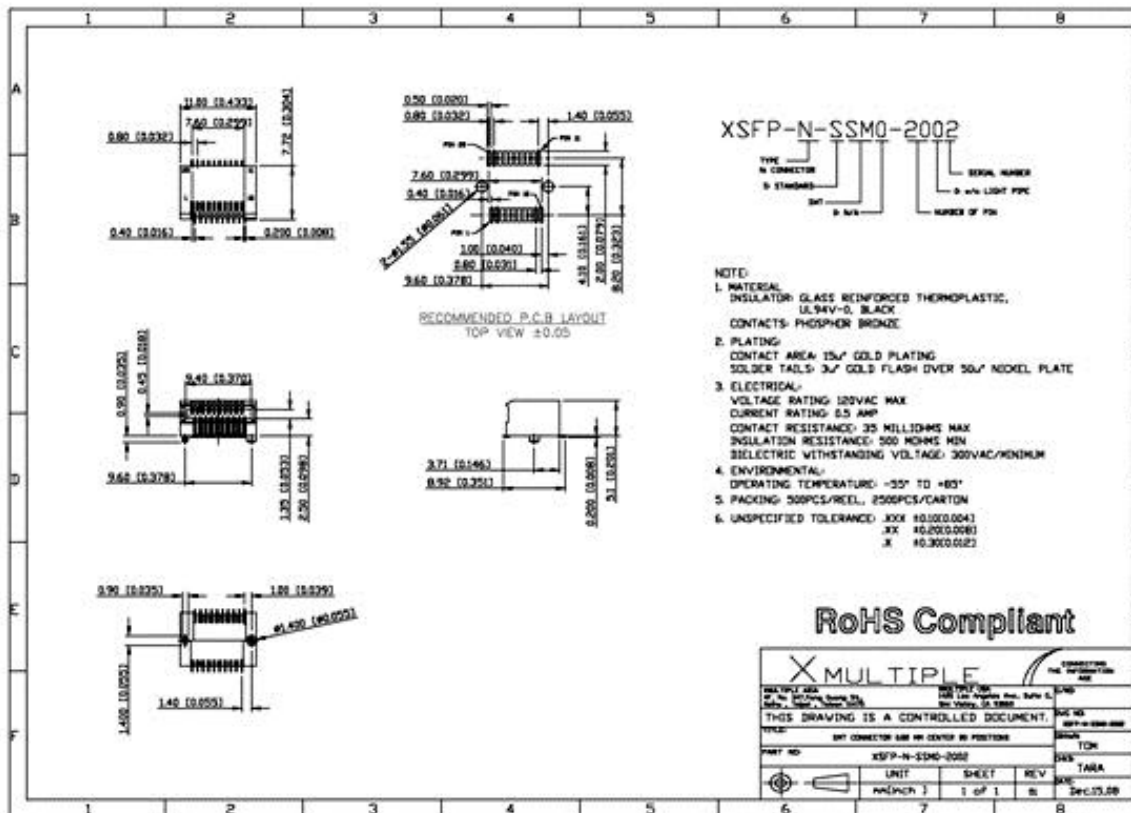
Right Angle SMT Receptacle



- 20 position, 0.8mm pitch
- Housing: UL 94V-O High Temperature Thermoplastic
- Plating: 15 or 30 micro inches gold over nickel option
- Coplanarity: Solder tail within 0.10mm
- Card entry slot to accept 1.0mm thick integrated circuit card
- Alignment posts provide stability for placement to PCB
- Tape & Reel packaging for SMT robotic placement (500/reel)
- Mates to copper patch cables and optical and copper modules
- Post design provides "belly-to-belly" board mounting option



XFP 20 POS Connector



Available in Tape and Reel Packing





SFP EMI Cages Single & Ganged Type

- **Available in Press-Fit or Solder-Post versions for various board thicknesses and assembly processes**
 - **Material: Tin or Nickel plated copper alloy**
 - **Accepts copper and optical SFP modules for Fiber Channel, Gigabit Ethernet, and Infiniband applications**
 - **PCI version has solder posts angled one degree for use in applications that specify PCI panels**
 - **Two-point spring contacts for optimal EMI grounding**
 - **Chamfered edges on cover to facilitate kit assembly to base**
 - **Design allows two cages to be mounted on opposite sides of PCB for "belly-to-belly" applications**
- **Press fit Single Cage**
 - **Solderable Single Cage**
 - **Dual Port Cage with or without Lightpipes**
 - **Quad Port Cage with or without Lightpipes**
 - **Six Port Cage with or without Lightpipes**

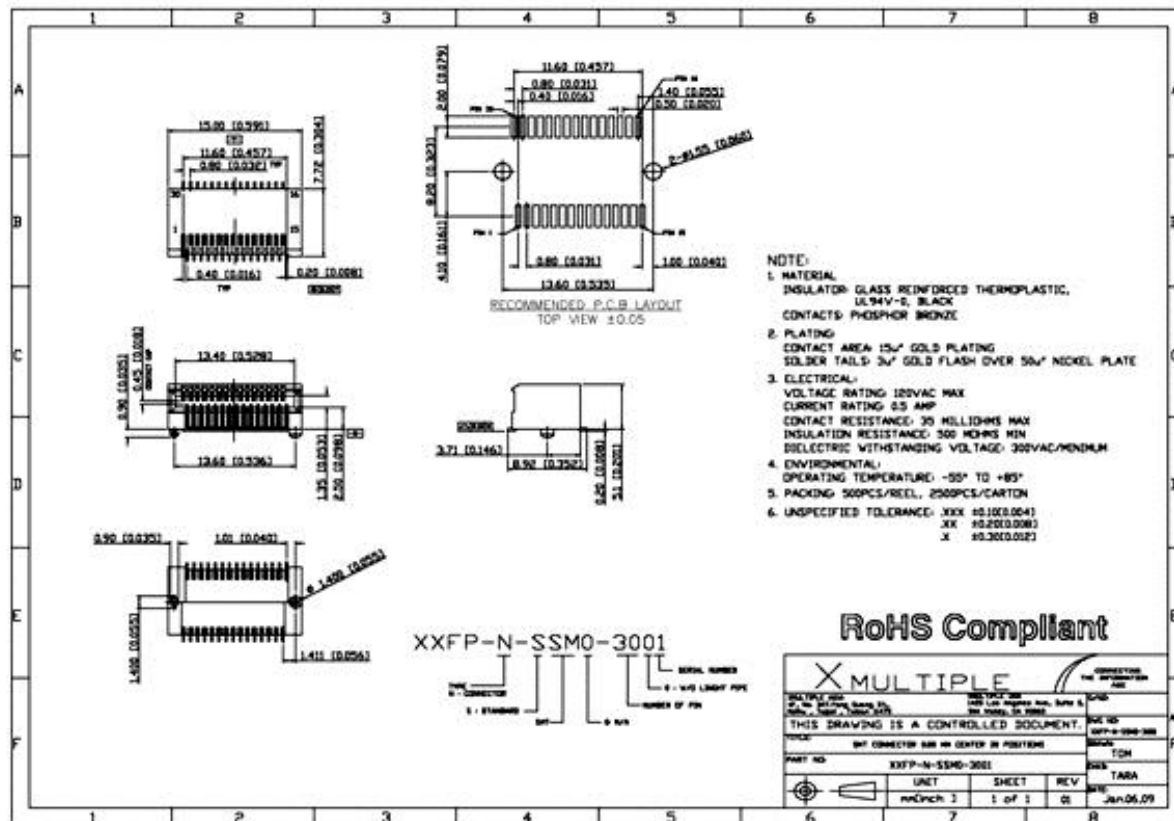


XFP Products

XFP is being replaced by most companies with SFP Plus Technology. XFP used 30 pin SMT connectors. Heat Sinks and Dust/EMI Covers.



XFP 30POS Connector



Available in Tape and Reel Packing





2x1 Cages Stacked Type

SFP 2X1 Cage Assembly – Belly to Belly Style
Stackable Application



2x4 Cages Stacked Type

SFP 2X4 Cage Assembly – Belly to Belly Style
Stackable Application



SFP+

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.

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 designed to support 10Gb/s+ signal speeds, backward compatible with SFP**
- **Both EMI spring and Elastomeric gasket options for cages provide excellent shielding**
- **All cage configurations are offered with lightpipes for LED applications**
- **Heatsink optional for single port cages**
- **Cages are available for PCI card applications (one degree mounting angle)**
- **Cages accommodate belly-to-belly mounting**
- **Active and passive copper cable assemblies provide a cost-effective solution for short reach applications**



SFP+ 20 POS Host Connector

- High speed contact design provides excellent electrical performance
- Capable handling 10G/bps data rates to meet SFP+ industry standard requirements
- Available in 0.38 or 0.76 μm (15u" or 30u" gold plating accommodating cost and performance preferences
- Tape & Reel packaging for SMT robotic placement (500/reel)
- Mates to copper patch cables and optical and copper modules
- Post design provides "belly-to-belly" board mounting option





SFP + EMI Cages Single & Ganged Type

- **Available in Press-Fit or Solder-Post versions for various board thicknesses and assembly processes**
- **Material: Tin or Nickel plated copper alloy**
- **Elastomeric or metal spring finger gasket provide two option for superior EMI protection**
- **Capable handling 10 Gbps data rates of copper and optical SFP+ modules for Fiber Channel, Gigabit Ethernet, and Infiniband applications**
- **All cage configurations are offered with lightpipes for LED applications**
- **Heatsink optional for single port cages**
- **PCI version has solder posts angled one degree for use in applications that specify PCI panels**
- **Chamfered edges on cover to facilitate kit assembly to base**
- **Design allows two cages to be mounted on opposite sides of PCB for "belly-to-belly" applications**



- **High-speed contact wafer design supports data transmission up to 10 Gbps.**
- **Elastomeric or metal gasket provide two options for superior EMI protection**
- **Capable of handling 10 Gbps data rates to meet SFP+ industry requirements**
- **Integrated lightpipes for use with SMT Light Emitting Diode's (LEDs) provide port status and activity feedback to the user.**

- **Design integrates 2 (2-by-1), 4 (2-by-2), 8 (2-by-4), 10 (2-by-5) or 12 (2-by-6) SFP+ ports and lightpipes into one assembly to increase port density and reduces assembly labor**
- **Press-fit termination to PCB eliminates soldering, lowering the applied cost and avoiding solder-related issues.**
- **Modules oriented "belly-to-belly" when inserted provides ease of removal of the module from the port.**



Connecting the Information Age

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