HIGH-SPEED BACKPLANE SYSTEMS

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HIGH-SPEED BACKPLANE SYSTEMS

HIGH-DENSITY • DESIGN FLEXIBILITY • HIGH RELIABILITY

EBTM/EBTF-RA
Shown with power and guidance modules

ExaMAX® HIGH-SPEED

Traditional Backplane
Add-on Power & Discrete Guidance Modules
Cable Systems
Direct-Mate Orthogonal
Coplanar

Xcede HD HIGH-DENSITY

Traditional Backplane
Modular Design with Guidance, Keying & Power Modules

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**EXAMAX® HIGH-SPEED BACKPLANE**

- Meets industry specifications such as PCI Express®, Intel OPI and VPI, SAS, SATA, Fibre Channel, InfiniBand™ and Ethernet
- Exceeds OIF CEI-28G-LR specification for 28 Gbps standards
- 24 - 72 pair designs (4 and 6 pairs; 6, 8, 10 and 12 columns)
- Wafer design increases isolation for reduced crosstalk
- Press-fit tails provide a reliable electrical connection
- Cable assemblies available (EBCM/EBCF)

**PERFORMANCE CHARTS**

ExaMAX® is engineered for 92 Ω impedance to address both 85 Ω and 100 Ω applications

- ExaMAX® Return Loss
  - 85 Ω System (PCIe® Gen 4)
  - 100 Ω System (OIF CEI-28G)
- ExaMAX® Impedance
  - (15 ps Risetime 10-90%)

`ExaMAX®` is a trademark of AFCI
XCEDE® HD HIGH-DENSITY BACKPLANE

- Small form factor and modular design provides significant space-savings and flexibility
- High-performance system
- Up to 84 differential pairs per linear inch
- 3, 4 and 6-pair designs on 4, 6 and 8 columns
- Integrated power, guidance, keying and side walls available
- 85 Ω and 100 Ω options
- Combine any configuration of modules to create one integrated receptacle (BSP Series); corresponding terminal modules are individually mounted to the backplane

SMALL FORM FACTOR

3, 4 and 6-pair designs

DENSITY COMPARISON

XCeDe® HD
Up to 84 pairs per linear inch

Traditional Backplane
Up to 76 pairs per linear inch

(Both shown with six 4-pair, 8 column receptacles)

SIGNAL/GROUND PIN STAGING

Ground Pins
Ground pins mate before signal pin pairs for hot plugging, preventing system downtime

Signal Pins
Signal pin pairs achieve up to 3.00 mm contact wipe for a reliable connection
MODULAR DESIGN

Xcede® HD consists of signal, power and keying/guidance modules for incredible design flexibility. The modules can be customized in any configuration to meet specific application requirements. Contact HSBP@samtec.com for more information about building a full Xcede® HD solution.

How to build a full solution:

1. Right-angle modules can be built into a single customizable BSP

2. Build a BSP part by combining any number, in any configuration, of HDTMs, power and keying/guidance modules to create one receptacle

3. Header modules mount to the backplane individually, in any configuration of HDTM and HPTS Series

PRODUCT BREAKDOWN
(BSP Custom Configuration Shown)

- Guidance
- Keying

HDTM/HPTS Series

BSP Series

Right-angle Signal Modules

Power

Guidance / Keying

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EXAMAX® BACKPLANE CABLE ASSEMBLIES

- Utilizes Samtec’s Eye Speed® ultra low skew twinax cable technology for improved signal integrity, increased flexibility and routability
- Highly customizable with modular flexibility
- Reduce costs due to lower layer counts
- 30 and 34 AWG
- Multiple end options available

**DESIGN FLEXIBILITY**

- 4 and 6 pairs; 4-16 columns
- Intermateable with all ExaMAX® connectors
- Integrated guidance and keying options
- Cable-to-DMO (Direct Mate Orthogonal)

**HIGH-DENSITY APPLICATION**

Increases architectural flexibility by overcoming the limitations of a traditional connector-to-connector backplane
Industry’s lowest mating force with excellent contact normal force.

Wafer design increases isolation for reduced crosstalk.

Includes one sideband signal per column.

Two reliable points of contact with a 2.4 mm wipe.

Staggered differential pairs provide higher data rates.

Vertical and right-angle.

30 and 34 AWG ultra low skew twinax cable to support various cable lengths.

Designed for blind-mate systems.

ULTRA LOW SKEW TWINAX CABLE

Samtec’s Eye Speed® co-extruded twinax cable technology eliminates the performance limitations and inconsistencies of individually extruded dielectric twinax cabling, improving signal integrity, bandwidth and reach for high-performance system architectures.

- Tight coupling between signal conductors
- Improved bandwidth and reach
- Improved signal integrity and eye pattern opening

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