

Quick Reference Guide

High Speed Backplane Interconnect Solutions

The emergence of faster data rates, and decreasing signal rise times, requires better performing, high speed connectors. TE Connectivity's broad portfolio of high speed backplane connectors provides system designers the flexibility they require to solve their specific performance challenges.

INDUSTRY APPLICATIONS

- Servers- blade, rack mount and mainframe stackable, carrier grade, core, edge and Metro Ethernet
- Switches- Stackable, carrier grade, core, edge and Metro Ethernet
- Routers- edge, core, enterprise class, carrier Ethernet, BRAS and Multi Service Edge
- Optical- Transport: carrier grade optical, metro WDM, optical multi-service provisioning, long haul optical and enterprise LAN optical Ethernet

te.com/**products/2Piece-High-Speed**

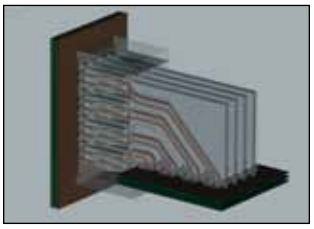
TE connectivity

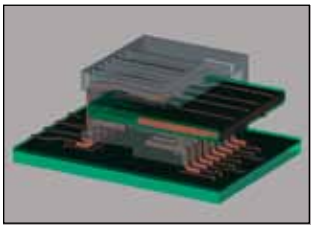
Signal Integrity at TE

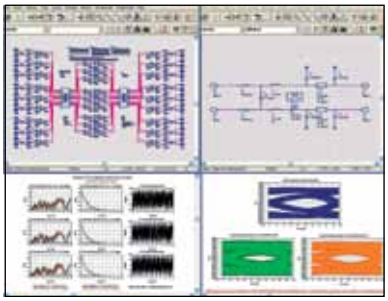
TE Connectivity gets the best performance out of connectors by applying system-level signal integrity design expertise to each high-speed product. Our modeling and simulation skills are second to none with global expertise in the U.S., Europe, and Asia. Our global presence places simulation, modeling, and system layout experts next to the customer.

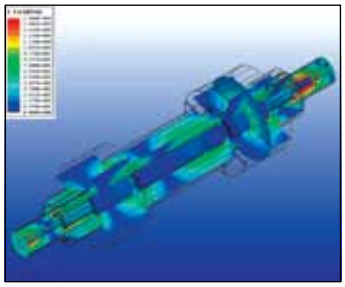
Modeling and Simulation

At TE the design process starts with signal integrity. Signal integrity engineers use sophisticated 3D tools to provide accurate connector and footprint via pattern performance prior to production. TE has the tools and expertise to get the right answer.







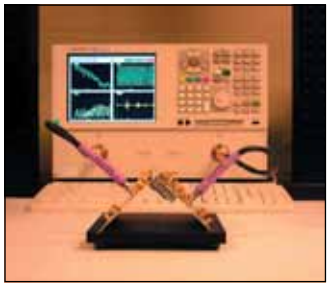


- Ansys HFSS and CST Microwave Studio Full-wave 3D tools
- Both connector and footprint via pattern(s) analyzed before production
- S-parameter and SPICE analysis
- Sophisticated ADS and MATLAB system analysis

Test Capability

With measurement capabilities beyond 12.5 Gbps and 50 GHz, TE can characterize and provide detailed measurements for its products. Cutting-edge measurement calibration techniques and board design enable accurate de-embedding of test fixtures. TE has also teamed with numerous silicon companies to provide active device measurements that can be invaluable to assure the successful implementation of a design.

- Advanced calibration techniques de-embed fixture
- Frequency domain to 50 GHz
- Time domain eye pattern/BERT to 12.5 Gbps
- Active silicon testing – multiple vendors 2 – 10+ Gbps
- Both system and “connector only” boards

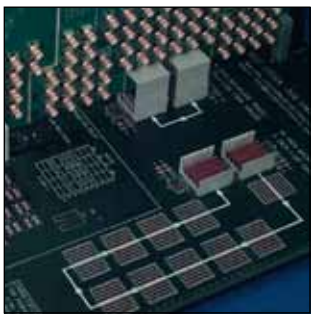




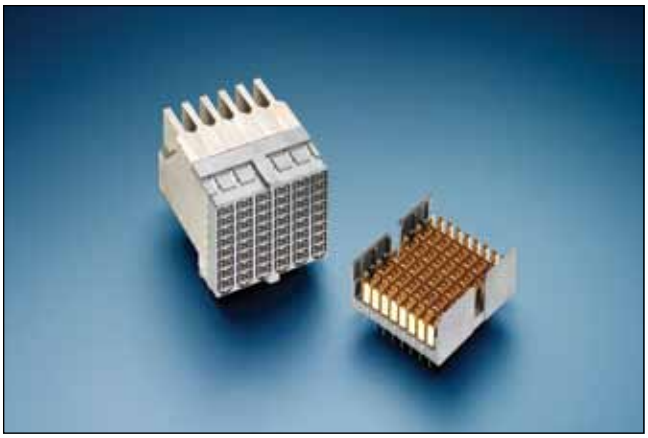
Customer Support and Tools

From test boards to simulation models, TE provides a library of tools that help you successfully implement your system. Requests can be easily made through our signal integrity website: www.te.com/documentation/electrical-models



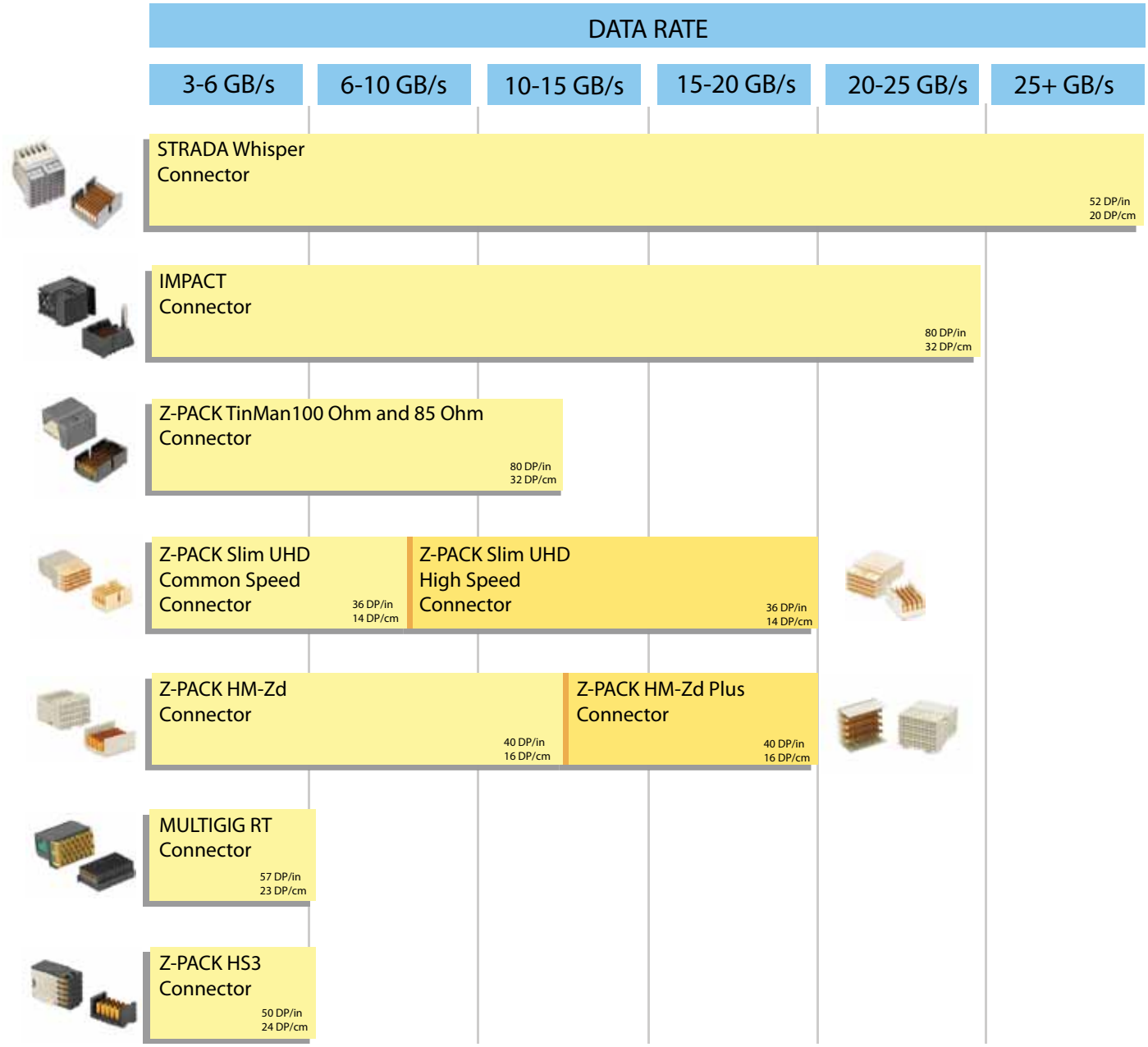


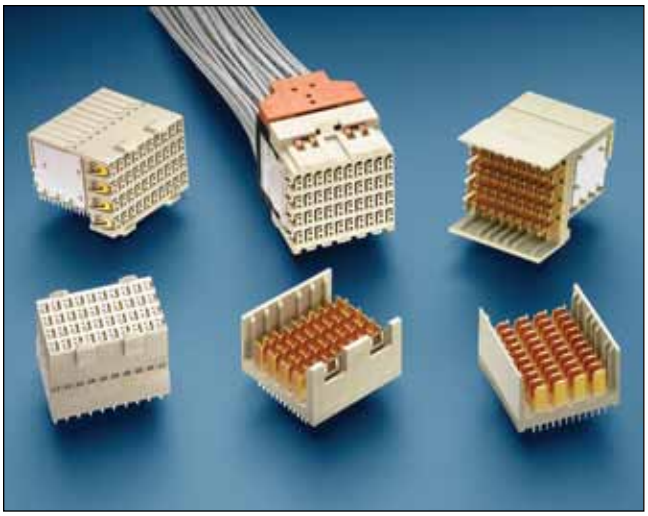
- Ansys HFSS and CST Microwave Studio Full-wave 3D tools
- Both connector and footprint via pattern(s) analyzed before production
- S-parameter and SPICE analysis
- Sophisticated ADS and MATLAB system analysis
- Measurement based S-parameter connector models (64+ ports)
- Modeling based S-parameter connector models (64+ ports)
- Footprint via pattern S-parameter and SPICE models
- SPICE connector models
- Connector evaluation test boards
- System test boards



STRADA Whisper Connectors

- Up to 40Gb/s performance
- Density up to 20 differential pairs per cm (52 DP per in)
- Available in 4, 6, and 8 pairs/column, supporting cardpitch of 16.4 mm (.64″), 20.4 mm (.8″), and 25.4 mm (1″) respectively
- See back panel for representative part numbers
- Website: www.te.com/products/stradawhisper





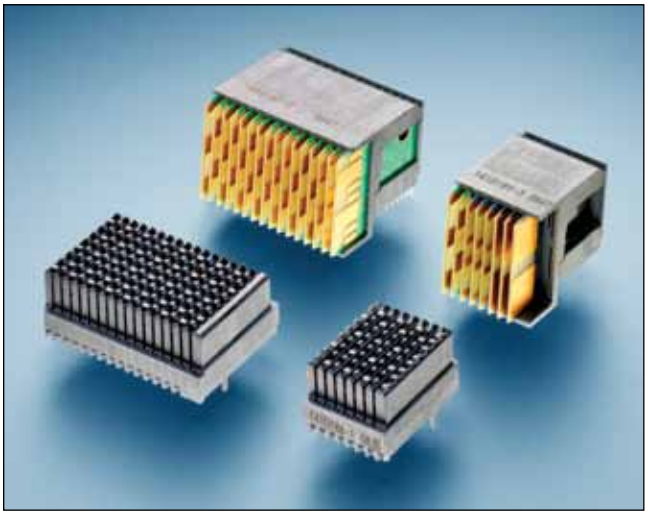
Z-PACK HM-Zd and Hm-Zd Plus Connectors

- Up to 12.5 Gb/s performance
- Density up to 16 differential pairs per cm (40 DP per inch), in 25.4 mm (1") slot-pitch
- Available in 2, 3 and 4 pairs/column, fitting 20.32 mm (0.8") slot-pitch for 2 and 3 pair version and 25.4 mm (1") slot-pitch for the 4 pair version
- HM-Zd Plus provides enhanced signal integrity in a design backwards compatible with standard HM-Zd
- Advanced Differential Fabric (ADF) Connector specified in the PICMG 3.X Advanced TCA specifications
- See back panel for representative part numbers
- Order catalog 1773095, "High Speed Backplane Connector"
- Website: http://hmzd.te.com



Z-PACK HS3 Connectors

- Up to 6.25 Gb/s performance
- Density up to 40 high speed signal lines (20 DP) per cm board space, in 25.4 mm (1") slot-pitch
- Available in 2 versions: six row and ten row, respectively fitting 20.32 mm (0.8") and 25.40 mm (1") slot-pitches
- High-speed connector designed for both single ended and differential signals
- See back panel for representative part numbers
- Order catalog 1773095, "High Speed Backplane Connector"
- Website: http://hs3.te.com



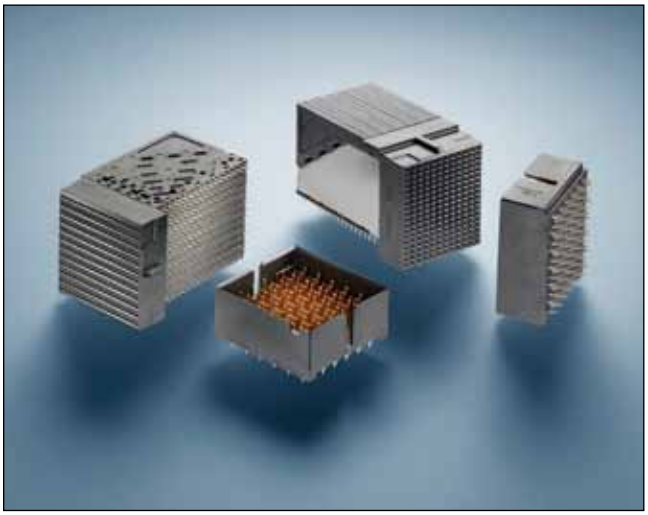
MULTIGIG RT Connectors

- Up to 6.25 Gb/s performance
- Density available in 2 versions per tier: 0.8" and 1", respectively fitting 20.32 mm (0.8") and 25.4 mm (1") slot-pitches
- Backplane connector system specified in VME standards: VXS (VITA 41) & VPX (VITA 46)
- Pinless backplane connector utilizes a PCB construction which allows the connector system to have extreme flexibility. 100 Ohm differential, 50 Ohm single ended, open pin field, and power wafers can be mixed within one connector module.
- See back panel for representative part numbers
- Order catalog 1773095, "High Speed Backplane Connector"
- Website: http://www.multigigrt.com



IMPACT Connectors

- Up to 25 Gb/s performance
- Density up to 32 high speed differential pairs per cm (80 DP per inch)
- 100 Ohm
- Modular system: 2, 3, 4, 5, 6 pair/ column available. 6 through 20 columns offered in increments of 2 columns
- See back panel for representative part numbers
- Order catalog 7-1773458-1, "IMPACT Backplane Connector System"
- Website: www.te.com/products/Impact



Z-PACK TinMan 100 Ohm and 85 Ohm Connectors

- Up to 12.5 Gb/s performance
- Density up to 14 high speed differential pairs per cm (80 DP per inch); 6-16 columns available
- Modular system: 3, 4, 5, and 6 pair/column, respectively fitting 16.25mm (.625"), 20.32 mm (0.8") and 25.4 mm (1") slot-pitch
- 85 ohm impedance version for QPCIe and Intel QPI standards, and other 85 ohm system applications
- See back panel for representative part numbers
- Order catalog 1773095, "High Speed Backplane Connector"
- Website: http://www.te.com/ZPackTinMan



Z-PACK Slim UHD Connectors

- 2 versions
  - CS (Common Speed) 8 Gb/s
  - HS (High Speed) 12.5 Gb/s, scalable to 20 Gb/s
- Density (in a 2 DP/Column assignment): 55 lines per cm, 141 lines per inch (in a SE assignment)
- Low profile — 12.5 mm wide
- Flexible pin assignments
- See back panel for representative part numbers
- Order catalog 1773095, "High Speed Backplane Connector"
- Website: http://www.te.com/products/zpackuhd

High Speed Backplane Interconnects

Once you have determined which connector description best suits your needs, use the chart below to find a part number to search the TE website.

	Representative Part Numbers	
Connector Description	**Plug**	**Receptacle**
STRADA Whisper Connectors	2149967-3	2149968-3
Z-Pack HM-Zd Connectors and Z-Pack Hm-Zd Plus Connectors	6469002-1	6469001-1
Z-Pack HS3 Connectors	5120658-1	5120790-1
MULTIGIG RT Connectors	1410187-3	1410142-1
IMPACT Connectors	2007777-1	2007703-1
Z-Pack TinMan 100 Ohm and 85 Ohm Connectors	1934269-1	1934218-1
Z-Pack Slim UHD Connectors	2042088-2	1982738-2

FOR MORE INFORMATION

TE Technical Support Center

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.
*as defined www.te.com/leadfree

te.com

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IMPACT is a trademark of Molex Inc.
MATLAB is a trademark of The MathWorks, Inc.
VITA is a trademark of VMEbus International Trade Association.

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