

# MicroSpeed Triple

## HIGH-SPEED. INTERCONNECT. SOLUTIONS. —

### GENERAL



### MicroSpeed Triple – the compact high-density, high-speed connector

ERNI's MicroSpeed® connector family is synonymous with fast data transmission, for high signal quality and for time proven reliability in permanent application.

The high-density high-speed connectors have been expanded to three-row variants. This enables data rates of up to 25 Gbit/s.

The new MicroSpeed Triple is suitable for the next generation communication standards such as Next Generation Ethernet 100 Gbit/s (IEEE 802.3ba), Optical Internetworking Forum (OIF) or Internet of Things (IoT).

Consequently, typical application fields are data communication and telecommunications, high-end computing, medical technology and industrial automation.

The new three-row variants increase the contact density of the extremely compact connector and permit the design engineer the utmost flexibility in pin assignment. HF-signals and ground contacts permit transversal, longitudinal or meshed arrangements, depending on requirement with regard to cross-talk (NEXT, FEXT).

Alternatively, the entire center (third) contact row can be used as a ground row/plane or for power supply.

The enhanced shielding concept of MicroSpeed Triple guarantees excellent electromagnetic compatibility (EMC) and is unprecedented within the industry.

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### TECHNICAL DATA

Pitch	1.0 mm
Pin counts	75, 192
Data rates	25 Gbit/s
Stack height	5 mm
Termination	SMT
Types	Vertical male connectors, Blind-Mate, EMC enhanced Vertical female connectors, Blind-Mate, EMC enhanced

### HIGH-SPEED HIGH-DENSITY

Several factors determine the choice of a connector series and style. Bandwidth, transmission speeds and the demand for higher densities and small package sizes are primary factors. The impact to electromagnetic compliance becomes increasingly important to engineers as international regulations require EMC testing for electronic systems.



- High-speed/ high-density connector
- Shielded design for maximum noise suppression
- Superior EMC capabilities
  - Outstanding immunity to interference
  - Minimized radiation
- Differential circuits for very high-speed rating
  - 48 pairs per square inch (MSP 192)
  - 43 pairs per square inch (MSP 75)
- Exceptionally well matched impedance minimizes discontinuities and enables signal quality
  - 100 Ohms - differential signal pairs
  - 50 Ohms - single-ended signals

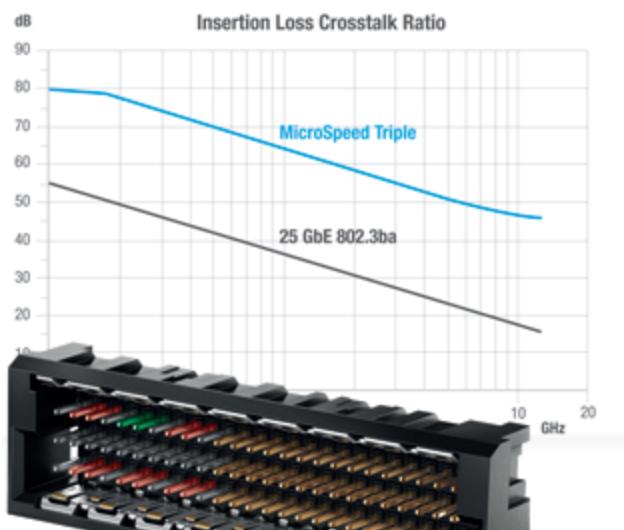
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### PERFORMANCE

Next-generation platforms demand optimal signal integrity performance when routing high-speed signals. Maintaining proper impedance while minimizing discontinuities can be a challenge. Also unwanted noise from the coupling of nearby signal lines may result in distortion of the desired and intended signal.

The MicroSpeed Triple combines high-speed performance criteria with excellent signal integrity.



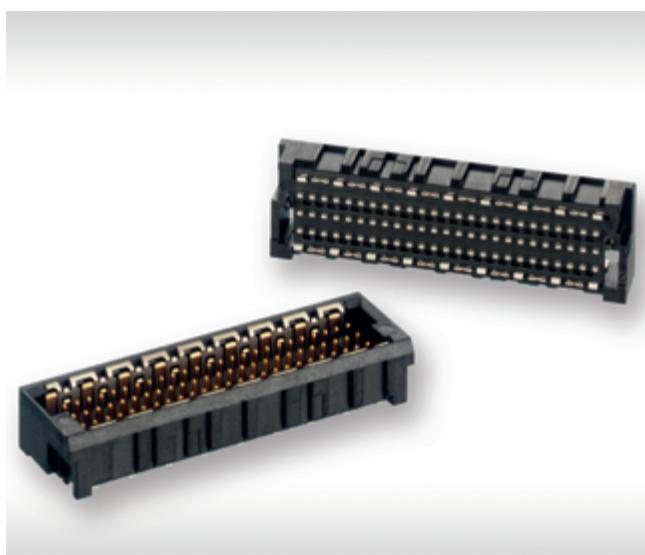
- Maximum grounding and routing flexibility: transversal, longitudinal or meshed assignments
- Single-ended or differential pair signaling
- Performance 25 Gbit/s differential (@ 0.5 dB IL / 12.5 GHz)
- Triple-row design supports crosstalk reduction (NEXT, FEXT) of up to 90% for certain pattern
- Low inductance path to ground

Pin assignment:

- Agressor
- Victim
- Ground

### ROBUST AND RELIABLE

The trade-off between signal integrity, signal density and mechanical robustness of a connector no longer exists. With MicroSpeed Triple we believe to have met all challenges engineers face in modern system designs. The extremely robust high-speed, high-density connector is designed for reliable operation in demanding environments.



- Blind-Mate design predestined for harsh environments
- Protected shrouded housing with polarized mating face
- Low-profile narrow housing design ensures airflow to promote system cooling
- Superior reliability due to dual-beam female contact
- Wipe length 1.5 mm
- Integrated shield / power planes rated for up to 10 A per shield
- Durability: 500 mating cycles

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### PRODUCT PORTFOLIO



**2-Row Versions**  
Male and Female  
Vertical and Right Angle  
Standard and Blind Mate  
EMC-Enhanced  
MicroFlex FPC



**7-Row Versions**  
Male and Female  
Vertical  
Standard and Blind Mate

**Power Modules**  
Male and Female  
Vertical and Right Angle  
Standard and Blind Mate

