The SpeedMezz Connector family offers high-densities, low profiles, data rates up to 56 Gbps per differential pair and easy upgrading with common receptacle footprints to deliver versatile solutions for high-speed mezzanine, rugged edge card and lower speed applications.

**Features and Benefits**

- **Receptacle shares the same footprint as the SpeedStack Receptacle**
  - Drop-in replacement for low-profile rugged edge card connection

- **SpeedEdge: 40 Gbps data rates with planned development for 56 Gbps**
  - Ideal for networking, telecommunications and medical equipment applications

- **SpeedEdge Mezzanine Connectors**

- **SpeedEdge Edge Card Connectors**

- **SpeedEdge: Longer, steeper lead-in receptacle**
  - Improves mating to edge cards

- **Removal of common ground pins**
  - Allows additional open pin field for low speed or power requirements

- **SpeedField Connectors’ footprint compatible with SpeedStack and SpeedEdge Plug**
  - Delivers design flexibility by enabling simple change out from one connector product line to another without having to redesign the PCB

- **Compatible with conventional pick-and-place equipment**
  - Allows for assembly automation

- **SMT solder tail with pin-in-paste solder nail**
  - Superior signal integrity over press fit and rugged attachment

- **Multiple circuit sizes: 22, 60 and 82**
  - Offers a high-density signal solution with flexible pin counts

- **SpeedStack Receptacle shares the same footprint as the SpeedEdge Receptacle**
  - Drop-in replacement for low-profile mezzanine connection

- **Capable of holding an edge card**
  - Secures an edge card, giving system designers another connection option

- **SpeedStack: Data rates up to 56 Gbps**
  - Ideal for networking, telecommunications and medical equipment applications

- **SpeedStack Mezzanine Connectors**

- **SpeedStack Edge Card Connectors**

- **SpeedFlex and SpeedCable Assemblies**
  - SpeedFlex Assemblies accommodate short stack height requirements and complex designs.
  - SpeedCable Assemblies deliver a complete solution for connections between distances

- **Ability to use single-ended half wafers**
  - Enables both power and signal delivery with one connector. Example: 60 circuits could be divided between high-speed differential pairs (8 pairs = 28 circuits and 4 spares = 2 circuits) for fast data rates and single-ended (30 circuits, all spares) for power delivery

- **COMING SOON**
  - Right-Angle SpeedEdge Edge-Card Connector

- **28 Gbps data rates today with roadmap to 56 Gbps NRZ**
  - Ideal for networking, telecommunications and medical equipment applications

- **SpeedEdge: 40 Gbps data rates with planned development for 56 Gbps**
  - Ideal for networking, telecommunications and medical equipment applications

- **Speed: Differential pair performance rated up to 20 Gbps**
  - Ideal for networking, telecommunications and medical equipment applications

- **SpeedField Plug**
SpeedMezz Connector Family

Applications

<table>
<thead>
<tr>
<th>Telecommunication/Networking</th>
<th>Defense</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scanning equipment</td>
</tr>
<tr>
<td></td>
<td>Medical</td>
</tr>
<tr>
<td></td>
<td>Diagnostic Imaging</td>
</tr>
<tr>
<td></td>
<td>Picture Archival and Communications (PACS)</td>
</tr>
<tr>
<td></td>
<td>Consumer</td>
</tr>
<tr>
<td></td>
<td>Camera</td>
</tr>
<tr>
<td></td>
<td>Mobile</td>
</tr>
<tr>
<td></td>
<td>Handheld scanners</td>
</tr>
</tbody>
</table>

Specifications

**REFERENCE INFORMATION**
- Packaging: Tape and Reel
- UL File No.: TBD
- Mates With: SpeedMezz Mating Plug or Receptacle
- Use With: Edge card or SpeedMezz Receptacle
- Designed In: Millimeters
- RoHS: Yes
- Halogen Free: Yes

**ELECTRICAL**
- Voltage (max.): 250V AC
- Current (max.): 1.0A per pin
- Contact Resistance: 10 milliohms
- Dielectric Withstanding Voltage: 300V AC
- Insulation Resistance: 10 Megohms

**MECHANICAL**
- Durability (min.):
  - Mezzanine (SpeedStack): 20 Cycles
  - Edgecard (SpeedStack): 5 Cycles
- Durability (min.):
  - Mezzanine (SpeedEdge): 100 cycles Target
  - Edgecard (SpeedEdge): 20 cycles

**PHYSICAL**
- Housing: Glass-Filled Thermoplastic (94-V0)
- Contact: Copper (Cu) Alloy
- Plating:
  - Contact Area — 0.76µm Gold (Au) min.
  - Solder Tail Area — 0.76-1.52µm Tin (Sn),
  - Underplating — 1.27µm Nickel (Ni) min.
- PCB Thickness: 1.58mm (0.062")
- Operating Temperature: -40 to +105°C

Ordering Information

<table>
<thead>
<tr>
<th>Series No.</th>
<th>SpeedMezz Connector Subfamily</th>
<th>Component</th>
<th>Height (mm)</th>
<th>Circuit Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>171450</td>
<td>SpeedStack</td>
<td>Receptacle</td>
<td>3.10 to 4.10</td>
<td>22, 60, 82 (dual bay: 22 and 60 circuits)</td>
</tr>
<tr>
<td>171446</td>
<td></td>
<td>Plug (Differential)</td>
<td>0.90 to 3.90</td>
<td>22, 60</td>
</tr>
<tr>
<td>171810</td>
<td>SpeedField</td>
<td>Plug, mates to SpeedStack</td>
<td>2.90 to 3.90</td>
<td>22, 60</td>
</tr>
<tr>
<td>173300</td>
<td>SpeedEdge</td>
<td>Receptacle, mates to plug or edgecard</td>
<td>N/A for edgecard: 7.00 to 12.00 for mezzanine</td>
<td>60, 82</td>
</tr>
<tr>
<td>173305</td>
<td>SpeedField</td>
<td>Plug, mates to SpeedEdge</td>
<td>1.4</td>
<td>22, 60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Custom Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Molex</td>
<td>SpeedCable Custom Cable Assemblies</td>
</tr>
<tr>
<td></td>
<td>SpeedFlex Custom Flex Assemblies</td>
</tr>
</tbody>
</table>

www.molex.com/link/speedmezz.html

Molex is a registered trademark of Molex, LLC in the United States of America and may be registered in other countries; all other trademarks listed herein belong to their respective owners.

Order No. 987651-6021 Rev. 2 USA/0k/GF/2017.10 © 2017 Molex