Molex’s Mizu-P25™ miniature wire-to-wire connectors provide the smallest size and highest level of dustproof and waterproof protection of any similar system in the market today. The system is IP67 rated, which ensures connector integrity when submerged in up to one meter of water.

Ideal for applications such as motorcycles or air conditioners that continue to pack more complicated electronics into smaller spaces, the Mizu-P25™ system provides assurance that dust or water will not interfere with signal integrity.

The Mizu-P25™ family includes two sub-families: the 52213/52266 type, which is rated up to 125 volts; and the 52116/52117 type, rated up to 250 volts. Both systems offer features such as integral sealing and secure positive locks. In addition, both versions provide some of the smallest mated diameters of any similar system.

**FEATURES AND BENEFITS**

**50147/50148/52266/52213 Series**

- **Stabilizing bump at tip keeps terminal in place during mating**
- **Unique spring-beam design provides high pressure and small deflection for high vibration applications**
- **Raised body design provides polarization**
- **Seal stopper provides waterproof protection and low terminal insertion force**
- **One-body wire seal enables tighter spacing between terminals**
- **Inner positive lock saves space and protects latch area**

**50038/50039/52116/52117 Series**

- **Unique spring-beam design provides high pressure and small deflection for high vibration applications**
- **Raised body design provides polarization**
- **Seal stopper provides waterproof protection**
- **Inner positive lock saves space and protects latch area**

**Mizu-P25™ 2.50mm (.098”) Pitch Miniature Waterproof Connector Systems**

- **50147/50148**
- **52266/52213** 125 Volts Type
- **50038/50039**
- **52116/52117** 250 Volts Type
SPECIFICATIONS

**Electrical**
- Contact Resistance: 10 milliohms max.
- Dielectric Withstanding Voltage: 500V AC/1 min.
- Insulation Resistance: 250 Megohms min.

**Physical**
- Operating Temperature: -40 to +105 °C

*Mizu-P25™ (125 Volts type)*

**Crimp Terminals**

<table>
<thead>
<tr>
<th>Image</th>
<th>Type</th>
<th>Part Number</th>
<th>Packaging</th>
<th>Voltage</th>
<th>Current</th>
<th>Wire Range</th>
<th>Insulation Range</th>
<th>Strip Length</th>
<th>Material</th>
<th>Plating</th>
<th>Application Tooling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>50148-8000</td>
<td>Reel</td>
<td></td>
<td>3.0A</td>
<td>AVSS/CAVS 0.30 sq. (22 AWG)</td>
<td>1.40 ~ 1.70mm</td>
<td>2.00 ~ 2.50mm</td>
<td>Phosphor Bronze</td>
<td>Tin</td>
<td>See molex.com</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>50147-8000</td>
<td>Bag</td>
<td>125 Volts max.</td>
<td>4.0A</td>
<td>AVSS/CAVS 0.50 sq. (20 AWG)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>50147-8100</td>
<td>Bag</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Crimp Housings**

<table>
<thead>
<tr>
<th>Image</th>
<th>Type</th>
<th>Part Number</th>
<th>Circuit Size</th>
<th>Voltage</th>
<th>Current</th>
<th>Housing Material</th>
<th>Housing Color</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptacle</td>
<td></td>
<td>52213-0211</td>
<td>2</td>
<td></td>
<td>125 Volts max.</td>
<td>4.0 max.</td>
<td>Glass-filled PBT</td>
<td>Brown</td>
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<tr>
<td>Plug</td>
<td></td>
<td>52266-0311</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>Black</td>
<td>Tray</td>
</tr>
<tr>
<td></td>
<td></td>
<td>52266-0417</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Black</td>
<td>Tray</td>
</tr>
</tbody>
</table>

Note: Cap-fitting tool needed for final assembly of housing. Contact Molex for details.

*Mizu-P25™ (250 Volts type)*

**Crimp Terminals**

<table>
<thead>
<tr>
<th>Image</th>
<th>Type</th>
<th>Part Number</th>
<th>Packaging</th>
<th>Voltage</th>
<th>Current</th>
<th>Wire Range</th>
<th>Insulation Range</th>
<th>Strip Length</th>
<th>Material</th>
<th>Plating</th>
<th>Application Tooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td>50039-8000</td>
<td>Reel</td>
<td></td>
<td>250 Volts max.</td>
<td>3.0A</td>
<td>AVSS 0.30 sq. (20-22 AWG)</td>
<td>1.80 ~ 1.90mm</td>
<td>2.00 ~ 2.50mm</td>
<td>Phosphor Bronze</td>
<td>Tin</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>50038-8000</td>
<td>Bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Male</td>
<td></td>
<td>50038-8100</td>
<td>Bag</td>
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<td></td>
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</tbody>
</table>

**Crimp Housings**

<table>
<thead>
<tr>
<th>Image</th>
<th>Type</th>
<th>Part Number</th>
<th>Circuit Size</th>
<th>Voltage</th>
<th>Current</th>
<th>Housing Material</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptacle</td>
<td></td>
<td>52117-024x</td>
<td>2</td>
<td></td>
<td>250 Volts max.</td>
<td>3.0 max.</td>
<td>Glass-filled PBT</td>
</tr>
<tr>
<td></td>
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<td>52117-034x</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>52117-041x</td>
<td>4</td>
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<td></td>
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</tr>
<tr>
<td>Plug</td>
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<td>52116-024x</td>
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<td>52116-034x</td>
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<tr>
<td></td>
<td></td>
<td>52116-041x</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Replace x with: 0 = White color, 1 = Black color, 2 = Red color (red is available in 2 and 3 circuits only). *These 52116/52117 series have a version which accepts thinner and lighter AVSS 0.30 square wire (-0243 order number), and a two-circuit version contained in a wider four-circuit body size (-0413 order number). *Cap-fitting tool needed for final assembly of housing. Contact Molex for details.
How the Mizu-P25™ System Works
(52116/52117 Type Shown Below)

1. Make sure connector cap is in unlocked position.

2. Insert crimped terminal into wire-end rubber seal hole and push the terminal in until you hear it click.

3. Tug on the wire to confirm proper insertion of the terminal. Use “Cap Fitting Tool” to seat the cap into the plug and receptacle.
   - Check and confirm that you can see more than half of cap lock through cap lock window.

4. Match direction of lock and insert until the lock snaps in place.

Note: Cap-fitting tool needed for final assembly of housing. Contact Molex for details.
MARKETS AND APPLICATIONS

- Mirror harness
- Lamp harness
- Air conditioning system
- Powered rear view mirrors
- LED street lights
- Vending machines
- Heated toilet seat

Mizu-P25™
2.50mm (.098”) Pitch
Miniature Waterproof
Connector Systems

50147/50148
52266/52213 125 Volts Type
50038/50039
52116/52117 250 Volts Type

DIMENSIONAL COMPARISON

52117/52116 Series – 2 and 3 circuits

52213/52266 Series – 2 circuits