PicoBlade Connector System

New SMT header vacuum caps (7 to 15 circuit) and 0.38μm gold-plated versions have been added to Molex’s PicoBlade Wire-to-Board Connector, a best seller with two header options, affording superior reliability and durability across a wide variety of applications and industries.

Features and Advantages

- Compact and small 1.25mm pitch
- W-to-W/W-to-B connectors
- Provides space savings

- W-to-B and W-to-W solutions with through-hole and SMT headers in straight and right-angle orientations
- Offers design flexibility

- Two-point contact design
- Assures a reliable electrical connection under low-current, low-voltage and high-vibration conditions

- 0.38μm gold-plated versions
- Offers superior reliability and durability in harsh environmental conditions

- SMT and through-hole options for right-angle headers
- Offers design flexibility

- Friction lock
- Provides secure mating retention

Markets and Applications

Automotive
- In-vehicle comfort and infotainment
- Body control modules
- Shifters
- Steering wheels
- Instrument clusters
- Combination switches

Consumer
- Smart TVs
- Set top boxes
- Air conditioners
- White goods
- Gaming machines
- Laser/Inkjet printers
- Computer screens

Industrial
- Smart meters
- Security systems
- Drones
- Electric test equipment

Data Communications
- Servers

Healthcare
- Hearing aids
- Medical monitors
## Specifications

### REFERENCE INFORMATION

**Packaging:** Reel (Terminal); Embossed (SMT Header Assembly); Tray (Through Hole Header Assembly), Bag (Receptacle Housing)
**Designed In:** Millimeters
**RoHS:** Yes

### PHYSICAL

**Housing:**
- Receptacle − PBT (51021)
- Header − PA66 (53047/53048 /through hole), PA46 (53261/53398 /SMT)

**Contact:** Phosphor, Bronze for crimp terminal, through hole header and SMT header

**Plating:**
- Contact Area — Gold plated 0.38µm for crimp terminal, through hole header and SMT headers — Tin plated for crimp terminal, through hole header and SMT header
- Underplating — Nickel for gold plated crimp terminals, headers and Tin plated 53261/53398 SMT headers

**Operating Temperatures:**
- -40 to +105˚C (53398/53261)
- -40 to +85˚C (53047/53048)

### MECHANICAL

**Crimp Terminal Insertion Force (max.):** 4.9N
**Crimp Terminal Retention to Housing (min.):** 4.9N
**Mating Force (1st):** 19.6N (2 Circuit)
**Unmating Force (1st):** 2.8N (2 Circuit)
**Durability:** 30 Cycles

### ELECTRICAL

**Voltage (max.):** 125V
**Current (max.):** 2.5A at 2 Circuit/26 AWG
**Contact Resistance (max.):** 20 milliohms
**Dielectric Withstanding Voltage:** 250V AC
**Insulation Resistance (min.):** 100 Megaohms

### Contact Information

**Operating Information**

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Wire-to-Board</th>
<th>Wire-to-Wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>26AWG</td>
<td>2.5A</td>
<td>1.5A</td>
</tr>
<tr>
<td>28AWG</td>
<td>2.0A</td>
<td>1.5A</td>
</tr>
<tr>
<td>30AWG</td>
<td>1.5A</td>
<td>1.0A</td>
</tr>
<tr>
<td>32AWG</td>
<td>1.5A</td>
<td>0.8A</td>
</tr>
</tbody>
</table>

(1) Values are for REFERENCE ONLY.
(2) Current deratings are based on not exceeding 30° C temperature rise.
(3) Temperature Rise is measured in barrel area of crimp terminal.
(4) PCB trace design can greatly affect temperature rise results.
(5) Data is for all circuits powered.

### Series/ Part No. Component Circuits Plating Description Color

<table>
<thead>
<tr>
<th>Series/ Part No.</th>
<th>Component</th>
<th>Circuits</th>
<th>Plating</th>
<th>Description</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>50058-8000-8100</td>
<td>Crimp Terminal, Female</td>
<td>-</td>
<td>Tin</td>
<td>26 to 32 AWG</td>
<td>-</td>
</tr>
<tr>
<td>50079-8000-8100</td>
<td>Crimp Terminal, Male</td>
<td>-</td>
<td>Tin</td>
<td>26 to 32 AWG</td>
<td>-</td>
</tr>
<tr>
<td>50079-8025</td>
<td>Housing</td>
<td>2 to 15 and 17</td>
<td>-</td>
<td>Wire-to-Wire/Wire-to-Board</td>
<td>-</td>
</tr>
<tr>
<td>51021-xx00</td>
<td>Plug Housing</td>
<td>2 to 10</td>
<td>Tin</td>
<td>Through hole/Wire-to-Board</td>
<td>-</td>
</tr>
<tr>
<td>53047-xx10</td>
<td>Header</td>
<td>2 to 15</td>
<td>Tin</td>
<td>Through hole, Vertical</td>
<td>Natural</td>
</tr>
<tr>
<td>53048-xx10</td>
<td></td>
<td>2 to 15</td>
<td>Tin</td>
<td>Through hole, Right-Angle</td>
<td></td>
</tr>
<tr>
<td>53049-xx10</td>
<td></td>
<td>2 to 15</td>
<td>Gold 0.38µm</td>
<td>Through hole, Right-Angle</td>
<td></td>
</tr>
<tr>
<td>53261-xx071</td>
<td></td>
<td>2 to 15</td>
<td>Tin</td>
<td>SMT, Right-Angle</td>
<td></td>
</tr>
<tr>
<td>53261-70xx</td>
<td></td>
<td>2 to 15</td>
<td>Gold 0.38µm</td>
<td>SMT, Right-Angle</td>
<td></td>
</tr>
<tr>
<td>53398-xx71</td>
<td></td>
<td>2 to 15</td>
<td>Tin</td>
<td>SMT, Vertical</td>
<td></td>
</tr>
<tr>
<td>53398-xx67</td>
<td>Header with vacuum cap</td>
<td>2 to 6</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

*For 53398, optional vacuum cap : 2 to 6 Circuit/Natural
*Please contact Molex for available color in circuit size

---

Moorex 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. 987651-3691 Rev. 4
APN/06/GF/2019.05
©2019 Molex