

# PicoBlade Connector System

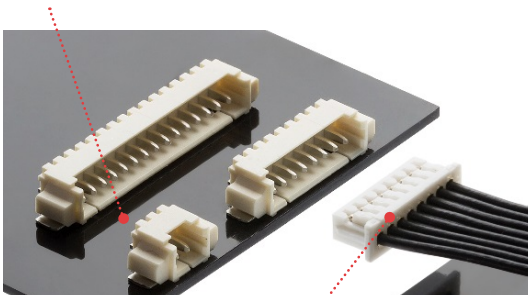


New SMT header vacuum caps (7 to 15 circuit) and 0.38µm gold-plated versions have been added to Molex's PicoBlade Wire-to-Board Connector, a best seller with two header options, affording superior reliability and durability across a wide variety of applications and industries

## Features and Advantages

**Compact and small 1.25mm pitch W-to-W/W-to-B connectors**

Provides space savings



**Friction lock**  
Provides secure mating retention

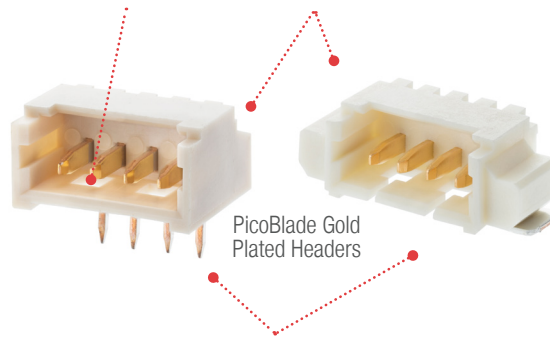
**W-to-B and W-to-W solutions with through-hole and SMT headers in straight and right-angle orientations**  
Offers design flexibility

**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

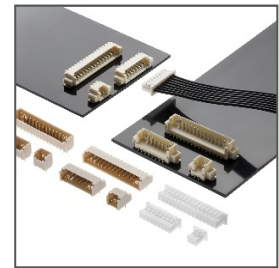


PicoBlade Gold Plated Terminal and Header

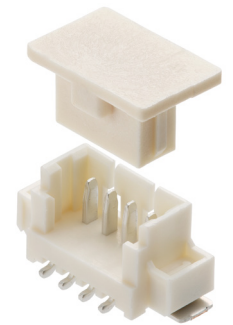


PicoBlade Gold Plated Headers

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



PicoBlade 1.25mm connectors with Straight and Right-Angle Headers



**Optional vacuum caps for SMT headers (2 to 15 circuits)**  
Allows high-volume placement using industry-standard pick

## Markets and Applications

### Automotive

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

### Industrial

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

### Data Communications

- Servers

### Consumer

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

### Healthcare

- Hearing aids
- Medical monitors



Automotive



Smart TV



Air Conditioners



Drone

## 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

\*Crimp terminal(Female), WTW terminal(Male), Header pin and Header nail.

| Wire Size | Wire-to-Board               |           |                                  | Wire-to-Wire                |           |                           |
|-----------|-----------------------------|-----------|----------------------------------|-----------------------------|-----------|---------------------------|
|           | Housing + Terminal (female) | MATES TO  | PCB Header                       | Housing + Terminal (female) | MATES TO  | Housing + Terminal (male) |
|           | 51021 + 50058<br>50079      | MATES TO  | 53398<br>53261<br>53047<br>53048 | 51021 + 50058<br>50079      | MATES TO  | 51047 + 50125<br>50133    |
|           | 2-circuit                   | 8-circuit | 15-circuit                       | 2-circuit                   | 6-circuit | 10-circuit                |
| 26AWG     | 2.5A                        | 1.5A      | 1.0A                             | 2.5A                        | 2.0A      | 1.0A                      |
| 28AWG     | 2.0A                        | 1.5A      | 1.0A                             | 2.0A                        | 1.5A      | 1.0A                      |
| 30AWG     | 1.5A                        | 1.0A      | 1.0A                             | 1.5A                        | 1.0A      | 1.0A                      |
| 32AWG     | 1.5A                        | 1.0A      | 0.8A                             | 1.3A                        | 1.0A      | 0.8A                      |

- (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.

## Ordering Information

| Series/ Part No. | Component              | Circuits               | Plating                   | Description                | Color   |               |
|------------------|------------------------|------------------------|---------------------------|----------------------------|---------|---------------|
| 50058-8000/8100  | Crimp Terminal, Female | -                      | Tin                       | 28 to 32 AWG               | -       |               |
| 50079-8000/8100  |                        | -                      |                           | 26 to 28 AWG               | -       |               |
| 50079-8025       |                        | -                      | Gold 0.38µm               | 26 to 28 AWG               | -       |               |
| 50058-8025       |                        | -                      |                           | 28 to 32 AWG               | -       |               |
| 50125-8000/8100  | Crimp Terminal, male   | -                      | Tin                       | Wire-to-Wire, 26 to 28 AWG | -       |               |
| 50133-8000/8100  |                        | -                      |                           | Wire-to-Wire, 28 to 32 AWG | -       |               |
| 51021-xx00       | Housing                | 2 to 15 and 17         | -                         | Wire-to-Wire/Wire-to-Board | Natural |               |
| 51047-xx00       | Plug Housing           | 2 to 10                | Tin                       | Wire-to-Wire               |         |               |
| 53047-xx10       | Header                 | 2 to 15                |                           | Through hole, Vertical     |         |               |
| 53048-xx10       |                        | 2 to 15                | Through hole, Right-Angle |                            |         |               |
| 53048-xx50       |                        | 2 to 15                | Gold 0.38µm               | Through hole, Right-Angle  |         |               |
| 53261-xx71       |                        | 2 to 15 and 17         | Tin                       | SMT, Right-Angle           |         |               |
| 53261-70xx       |                        | 2 to 15                | Gold 0.38µm               | SMT, Right-Angle           |         |               |
| 53398-xx71       |                        | 2 to 15                | Tin                       | SMT, Vertical              |         |               |
| 53398-xx67       |                        | Header with vacuum cap | 2 to 6                    | -                          |         | SMT, Vertical |

\*For 53398, optional vacuum cap : 2 to 6 Circuit/Natural

\*Please contact Molex for available color in circuit size

[www.molex.com/product/picoblade.html](http://www.molex.com/product/picoblade.html)

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