In 1953, Japan Aviation Electronics Industry, Ltd. began with the ambition of becoming a leading manufacturer in the aviation and space industries in Japan. Since then, we were able to expand and also specialize in designing and manufacturing connectors and gyroscopes.

Always keeping our corporate philosophy “Explore, Create, and Practice” in mind, we were able to successfully establish 3 strong product lines:

- Connectors
- User Interface Solutions
- Aerospace

JAE strives to be the number one partner for global customers by staying innovative and creative in an industry where technology is continuously evolving and advancing.

**JAE Electronics, Inc.,** a subsidiary of parent company JAE, designs, manufactures and markets electronic components, fiber optic connectors, LCD monitor connectors, waterproof electrical connectors, connectors for commercial energy storage systems, and other digital systems. A global company, JAE is a recognized leader in providing solutions to complex design requirements. By combining divergent technologies from experience gained in the aerospace industry, JAE has been able to transfer these technologies into advanced connector designs. From connectors on Japan’s Bullet Train, to the smallest hand-held video camera, JAE continues to meet the most demanding applications in the industry.
# Board-to-Board Connectors (1/2)

<table>
<thead>
<tr>
<th>Series</th>
<th>WP25D</th>
<th>WP26</th>
<th>WP27D</th>
<th>WP6C</th>
<th>WP7</th>
<th>WP9</th>
<th>WP10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Photo</strong></td>
<td><img src="image1.png" alt="Photo" /></td>
<td><img src="image2.png" alt="Photo" /></td>
<td><img src="image3.png" alt="Photo" /></td>
<td><img src="image4.png" alt="Photo" /></td>
<td><img src="image5.png" alt="Photo" /></td>
<td><img src="image6.png" alt="Photo" /></td>
<td><img src="image7.png" alt="Photo" /></td>
</tr>
<tr>
<td><strong>Pitch</strong></td>
<td>0.35mm</td>
<td>0.35mm</td>
<td>0.35mm</td>
<td>0.4mm</td>
<td>0.4mm</td>
<td>0.4mm</td>
<td>0.4mm</td>
</tr>
<tr>
<td><strong>Stacking Heights</strong></td>
<td>0.7mm</td>
<td>0.6mm</td>
<td>0.7mm</td>
<td>0.8mm</td>
<td>0.7mm</td>
<td>0.8mm</td>
<td>0.7mm</td>
</tr>
<tr>
<td><strong>Pin Count</strong></td>
<td>10,28,38 (+2 power pins)</td>
<td>10,24,34,40,42,54,60</td>
<td>10,30,34,38,40,50,60</td>
<td>24,30</td>
<td>10,16,20,24,26,28,30,32,34,40,50,60,70</td>
<td>10,14,20,24,30,32,40,40,60</td>
<td>2,4 (+4 power pins)</td>
</tr>
<tr>
<td><strong>High Power Contacts</strong></td>
<td>2</td>
<td>N/A</td>
<td>2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>4</td>
</tr>
<tr>
<td><strong>Board Mount</strong></td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>0.3A Signal 3A Power</td>
<td>0.3A</td>
<td>0.3A Signal 3A Power</td>
<td>0.3A</td>
<td>0.3A</td>
<td>0.3A</td>
<td>0.4A Signal 5A Power</td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
<td>50V AC/DC</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>50 cycles</td>
<td>30 cycles</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Hybrid connector w/ signal pins +2 high power contacts.</td>
<td>Small size and metal reinforcement in mating area to reduce risk of damage to insulator during mating.</td>
<td>Hybrid connector with high power contacts as well as metal reinforcement in mating area to reduce risk of damage to insulator.</td>
<td>Shielded connector for improved grounding and EMI/EMC performance.</td>
<td>High retention force for low pin counts and low insertion force for high pin counts.</td>
<td>Small connector width helps reduce board mounting space.</td>
<td>High power connector ideal for connecting batteries.</td>
</tr>
</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
<table>
<thead>
<tr>
<th>Socket side: WP10-S###VA10-R15000</th>
<th>Pin side: WP10-P###VA10-R15000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orderable in Reels of 15,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP6C - S###VA1 - R6000</th>
<th>Pin side: WP6C - P###VA1 - R6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Shielded version</td>
<td>Orderable in Reels of 6,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP9 - S###VA1 - R6000</th>
<th>Pin side: WP9 - P###VA1 - R6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orderable in Reels of 6,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP7A - S###VA1 – R8000</th>
<th>Pin side: WP7 - P###VA1 – R8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For pin counts up to 32:</td>
<td>Orderable in Reels of 15,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP7B - S###VA1 – R8000</th>
<th>Pin side: WP7B - P###VA1 – R8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For pin counts above 32:</td>
<td>Orderable in Reels of 6,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP26 - S###VA1 – R15000</th>
<th>Pin side: WP26 - P###VA1 – R15000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orderable in Reels of 15,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket side: WP27D - S###VA3 – R15000</th>
<th>Pin side: WP27D - P###VA3 – R15000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orderable in Reels of 15,000</td>
<td></td>
</tr>
</tbody>
</table>
## Board-to-Board Connectors (2/2)

<table>
<thead>
<tr>
<th>Series</th>
<th>AC01</th>
<th>AX01</th>
<th>WR</th>
<th>KX14/15</th>
<th>KX24/25</th>
<th>TX24/25</th>
<th>TX24A/25A</th>
<th>IL-WX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Photo</strong></td>
<td><img src="AC01.jpg" alt="Image" /></td>
<td><img src="AX01.jpg" alt="Image" /></td>
<td><img src="WR.jpg" alt="Image" /></td>
<td><img src="KX14/15.jpg" alt="Image" /></td>
<td><img src="KX24/25.jpg" alt="Image" /></td>
<td><img src="TX24/25.jpg" alt="Image" /></td>
<td><img src="TX24A/25A.jpg" alt="Image" /></td>
<td><img src="IL-WX.jpg" alt="Image" /></td>
</tr>
<tr>
<td><strong>Pitch</strong></td>
<td>0.5mm</td>
<td>0.635mm</td>
<td>0.5mm</td>
<td>0.8mm</td>
<td>0.8mm</td>
<td>1.27mm</td>
<td>1.27mm</td>
<td>0.80mm</td>
</tr>
<tr>
<td><strong>Stacking Heights</strong></td>
<td>2.5mm: 60 &amp; 80 pos: 2.5mm &amp; 3.0mm 50 &amp; 100 pos</td>
<td>8.0, 10.0, 14.0, 16.0, 18.0, 20.0, 22.0, 24.0, 30.0mm</td>
<td>4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0mm</td>
<td>N/A</td>
<td>12.0-24.0mm (2.0mm increments)</td>
<td>N/A</td>
<td>4-9mm (parallel)</td>
<td></td>
</tr>
<tr>
<td><strong>Pin Count (Parallel)</strong></td>
<td>50,60,80,100</td>
<td>30,40,60,80,90,100,120, 140</td>
<td>20,30,40,50,60,70,80,100,120,160</td>
<td>80,100,120,140,180 (coplanar)</td>
<td>30,40,50,60,80,100,120</td>
<td>80 (coplanar)</td>
<td>6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36</td>
<td></td>
</tr>
<tr>
<td><strong>Pin Count (Right Angle)</strong></td>
<td>N/A</td>
<td>30,40,60,80,90,100,120, 140</td>
<td>30,40,50,60,70,80,120</td>
<td>20,30,40,50,60,70,80</td>
<td>80,100,120,140,180</td>
<td>30,40,50,60,80,100,120,140</td>
<td>N/A</td>
<td>6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36</td>
</tr>
<tr>
<td><strong>Board Mount</strong></td>
<td>SMT</td>
<td>SMT</td>
<td>SMT</td>
<td>Thru-hole</td>
<td>Thru-hole</td>
<td>Thru-hole</td>
<td>SMT</td>
<td>Thru-hole</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>0.3A</td>
<td>0.5A</td>
<td>0.3A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>1.0A</td>
<td>1.0A</td>
<td>0.5A</td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>200VAC</td>
<td>50VAC</td>
<td>200VAC 300VDC</td>
<td>200VAC 300VDC</td>
<td>200VAC</td>
<td>250VAC</td>
<td>250VAC</td>
<td>200VAC 300VDC</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>500 cycles</td>
<td>100 Cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>30 cycles</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Highly stable and reliable contact structure, proven over decades of use.</td>
<td>PCIe-Gen3 compliant, high-speed transmission connector. Floating feature allowing for easy blind mating, and dual contact structure for high reliability.</td>
<td>9 different vertical stack heights.</td>
<td>Mating guide and key to prevent mis-mating.</td>
<td>Robust mating guide. Click response when mated.</td>
<td>Ribbon type contacts ensure reliable electrical continuity. Improved electrical characteristics from TX24/25 Series, supporting higher-speed transmission.</td>
<td>Combination of socket receptacle (straight) and pin header (straight/right angle) enable vertical and parallel connections.</td>
<td></td>
</tr>
</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
### Part Number Guide

**AC01 Series**
- **Socket side:** AC01 – S### - WA# - R####
  - Emboss Reel Packaging
- **Plug side:** AC01 – P### - WA1 - R####
  - Emboss Reel Packaging

**WR Series**
- **Socket side:** WR - ###S - VF - N1
  - B: Positioning Boss
  - H05: +0.5mm
  - H30: +3.0mm
- **Vert Pin side:** WR - ###P - VF - N1
  - B: Positioning Boss
  - 50: +1.0mm
  - 60: +2.0mm
- **R/A Pin side:** WR - ###P - HF - HD - A1E

**KX14/15 Series**
- **Receptacle:** KX14 - ###K 2 DE
  - Stack Height: 2, 5, 8mm
- **Straight Plug:** KX15 - ###K 3 DE
  - Stack Height: 2, 3, 4mm
- **R/A Plug:** KX15 - ###K L DLE
  - Right angle

**TX24/25 Series**
- **Receptacle:** TX24 - ###R - LT - H1E
  - Plug: TX25 - ###P - LT - H1E
  - Stacking Height:
  - LT: Right angle
  - ST: Straight
  - H: Hook pin
  - N: No hook pin

**KX24/25 Series**
- **Receptacle:** KX24 - ###R - LT - H1
  - Plug: KX25 - ###P - LT - H1
  - LT: Right-angle
  - ST: Straight
  - H: Hook pin

**TX24A/25A Series**
- **Receptacle:** TX24A - 80R - LT - H1E
  - Plug: TX25A - 80P - LT - H1E

**AX01 Series**

### IL-WX Series
- **Socket side:** IL-WX - ###S - VF - B
  - B: Positioning Boss
  - Hold Down
- **Vert Pin side:** IL-WX - ###P - VF - HD - S - B
  - B: Positioning Boss
  - Hold Down
  - Modification Code
- **R/A Pin side:** IL-WX - ###P - HF - HD - S - B
  - B: Positioning Boss
  - Hold Down
  - Modification Code

**Board-to-Board Connectors**
### Board-to-FPC Connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>FF08</th>
<th>FR02</th>
<th>FB10</th>
<th>FA10</th>
<th>FF03</th>
<th>FA5B</th>
<th>FA5S</th>
<th>FM8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo</td>
<td><img src="FF08.png" alt="Image of FF08" /></td>
<td><img src="FR02.png" alt="Image of FR02" /></td>
<td><img src="FB10.png" alt="Image of FB10" /></td>
<td><img src="FA10.png" alt="Image of FA10" /></td>
<td><img src="FF03.png" alt="Image of FF03" /></td>
<td><img src="FA5B.png" alt="Image of FA5B" /></td>
<td><img src="FA5S.png" alt="Image of FA5S" /></td>
<td><img src="FM8.png" alt="Image of FM8" /></td>
</tr>
<tr>
<td>Pitch</td>
<td>0.2mm</td>
<td>0.2mm</td>
<td>0.3mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
</tr>
<tr>
<td>Mounted Height</td>
<td>0.9mm</td>
<td>0.82mm</td>
<td>0.9mm</td>
<td>0.9mm</td>
<td>2mm</td>
<td>1.0mm</td>
<td>1.45mm</td>
<td>2.2mm</td>
</tr>
<tr>
<td>FPC/FFC Thickness</td>
<td>0.15 ± 0.02mm</td>
<td>0.2 ± 0.03mm</td>
<td>0.2 ± 0.03mm</td>
<td>0.2 ± 0.03mm</td>
<td>0.3 ± 0.05mm</td>
<td>0.3 ± 0.05mm</td>
<td>0.3 ± 0.05mm</td>
<td>0.3 mm ± 0.03mm</td>
</tr>
<tr>
<td>FPC Contact Orientation</td>
<td>Lower</td>
<td>Upper or Lower</td>
<td>Lower</td>
<td>Upper or Lower</td>
<td>Lower</td>
<td>Lower</td>
<td>Lower</td>
<td>Lower</td>
</tr>
<tr>
<td>Pin Count</td>
<td>25,29,41,51,71,81</td>
<td>23,41,51,61</td>
<td>11,13,15,19,21,25,27,31,33,41,45,51,61</td>
<td>4,5,6,10</td>
<td>60,64,68,80,96</td>
<td>6,8,10,15,16,18,20,22,24,26,30,36,40,45,50</td>
<td>41,51,60</td>
<td></td>
</tr>
<tr>
<td>Current Rating</td>
<td>0.3A</td>
<td>0.25A</td>
<td>0.35A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.8A</td>
<td>0.8A</td>
<td>0.5A</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
<td>50V</td>
</tr>
</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Loose pcs: **FA5B0##HP1**

Reel: **FA5B0##HP1 R3000**

1: Standard
2: Larger hold downs

Loose pcs: **FA5S0##HP1**

Reel: **FA5S0##HP1R3000**

Reel: **FB10S###JT1R6000**

Loose pcs: **FF03##SA1**

Reel: **FF03##SA1 - R2000**

Reel: **FF08##SA1-R3000**

Reel: **FR02C0##JA1-R5000**

Reel: **FM8S###HA2R4000**

Reel: **FA10##SA1-R8000**
# Commercial I/O Connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>DC2</th>
<th>DC3</th>
<th>DD1</th>
<th>DD2</th>
<th>DX07</th>
<th>DX4</th>
<th>DC1</th>
<th>DC04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitch</td>
<td>0.4mm</td>
<td>0.4mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>0.65mm</td>
<td>1.0mm</td>
<td>1.0mm</td>
</tr>
<tr>
<td>Interface Type</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O R/A Dock</td>
<td>Cable I/O R/A Dock</td>
<td>Cable I/O R/A Dock</td>
<td>Cable I/O Ver</td>
<td>Cable I/O Cable I/O</td>
<td>Cable I/O</td>
</tr>
<tr>
<td>Pin Count (Parallel)</td>
<td>19</td>
<td>19</td>
<td>30</td>
<td>40</td>
<td>24</td>
<td>5</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Signal Standard</td>
<td>HDMI</td>
<td>HDMI</td>
<td>USB 2.0</td>
<td>USB 2.0</td>
<td>USB Type-C™</td>
<td>USB 2.0</td>
<td>HDMI</td>
<td>HDMI 2.1</td>
</tr>
<tr>
<td>Current Rating</td>
<td>0.5A</td>
<td>0.3A</td>
<td>Signal: 0.5A Power: 1.0A</td>
<td>Signal: 0.5A Power: 1.0A</td>
<td>Vbus / GND: 5A Vconn: 1.25A Signal: 0.25A</td>
<td>Signal: 0.5A Power: 1.8A</td>
<td>0.5A</td>
<td>0.5A</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>40VAC</td>
<td>40VAC</td>
<td>30VAC</td>
<td>30VAC</td>
<td>20VAC</td>
<td>30VAC</td>
<td>40VAC</td>
<td>40VAC</td>
</tr>
<tr>
<td>Durability</td>
<td>5,000 cycles</td>
<td>5,000 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-20 ~ +85°C</td>
<td>-20 ~ +85°C</td>
<td>-25 ~ +75°C</td>
<td>-25 ~ +75°C</td>
<td>-30 ~ +80°C</td>
<td>-30 ~ +80°C</td>
<td>-20 ~ +85°C</td>
<td>-20 ~ +85°C</td>
</tr>
<tr>
<td>Locking</td>
<td>Friction</td>
<td>Friction</td>
<td>Latch</td>
<td>Latch</td>
<td>Friction</td>
<td>Friction</td>
<td>Friction</td>
<td>Friction</td>
</tr>
</tbody>
</table>

*Select part numbers only. Contact us for more information.

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Part Number Guide

Commercial I/O Connectors

**DC1RS19JA7**
- Receptacle: **DC1RS19JA7**
- Cable Harness: **DC1P019ST30200B**
- Restricted to HDMI Adopters
- Contact JAE for additional options

**DC2R019JA4**
- Receptacle: **DC2R019JA4**
- Hold Down Type: J: T/H, H: SMT
- Cable Harness: **DC1DC2ST2150B**
- Restricted to HDMI Adopters
- Contact JAE for additional options

**DC3RX19JA2**
- Receptacle: **DC3RX19JA2**
- Modification Code: Hold Down Type: X, J: T/H, 0, H: SMT

**DC04S019JA1**
- Receptacle: **DC04S019JA1**
- Modification Code
- Restricted to HDMI Adopters
- Contact JAE for additional options

**DD1R030HA1**
- Receptacle: **DD1R030HA1**
- Standard mount
- Reverse mount

**DD1R030JA7**
- Receptacle: **DD1R030JA7**
- Vertical
- Right angle

**DD1B030VA1**
- Docking Plug: **DD1B030VA1**

**DD1B030HA1**
- Docking Plug: **DD1B030HA1**

**DD1P030MA1**
- Cable Plug: **DD1P030MA1**

**DD2R040HP2**
- Receptacle: **DD2R040HP2**
- Vertical
- Right angle

**DD2B040VP4**
- Docking Plug: **DD2B040VP4**

**DD2B040HA2**
- Docking Plug: **DD2B040HA2**

**DD2P040MA1**
- Cable Plug: **DD2P040MA1**

**DX07B024J J 1**
- Receptacle: **DX07B024J J 1**
- Board Mount Type: B: Mid-mount
- S: On-board
- J: Horizontal SMT
- X: Horizontal Hybrid
- W: Vertical dock
- Modification Code
- Contact Area Plating: J: Au over Pd
- Ni over NI
- A: Au over Ni

**DX07P024A J 5**
- Receptacle: **DX07P024A J 5**
- Board Mount Type: P: Plug type
- V: Vertical dock
- W: Waterproof
- A: Slim Plug
- Modification Code
- Contact Area Plating

**DX07 5 18 S ** N *****
- Receptacle: **DX07 5 18 S ** N *****
- Series
- Modification Code
- Cable Spec (2): K: Gen1 3A
- L: Gen 2 3A
- N: Gen2 5A
- Cable Length: 10: 1 meter
- 20: 2 meter

**DX4R005 J J 2**
- Receptacle: **DX4R005 J J 2**
- Modification Code
- Hold Down Type: J: T/H
- H: SMT
# Industrial I/O Connectors [Rectangular]

<table>
<thead>
<tr>
<th>Series</th>
<th>QE6</th>
<th>DF02</th>
<th>JN6</th>
<th>JN14</th>
<th>HB01</th>
<th>HB03</th>
<th>KN01</th>
<th>KN02</th>
</tr>
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<tbody>
<tr>
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<td><img src="#" alt="Image" /></td>
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</tr>
<tr>
<td>Pitch</td>
<td>3.1mm</td>
<td>1.27mm</td>
<td>3mm</td>
<td>3.2mm</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
<td>Cable I/O</td>
</tr>
<tr>
<td>Pin Count</td>
<td>19, 30, 40</td>
<td>14, 20, 26, 36, 50, 68 (plug only)</td>
<td>2, 4, 7</td>
<td>2, 4, 9</td>
<td>6 (4 power, 2 signal)</td>
<td>2, 4, 8</td>
<td>12, 18, 50/insulator block</td>
<td>4, 6, 8, 16, 24 / insulator block</td>
</tr>
<tr>
<td>Current Rating</td>
<td>5A</td>
<td>0.5A</td>
<td>(2pos.): 1A (per pos.) (4pos.): 7A (per pos.) (7pos.): 1A (per pos.)</td>
<td>(2pos.): 1A (per pos.) (4pos.): 7A (per pos.) (9pos.): 1A (per pos.)</td>
<td>Power 18 AWG: 9A 24 AWG: 2A 16 AWG: 11A 22 AWG: 3A 14 AWG: 13A 20 AWG: 4A</td>
<td>28 ~ 30 AWG : 1A 24 ~ 26 AWG : 2A</td>
<td>12 AWG x 12 pos.: 23A 16 AWG x 14 pos.: 16A 20 AWG x 18 pos.: 3A 22 AWG x 50 pos.: 2A</td>
<td>4 pos ins block: 4A 6 pos ins block: 2A 8 pos ins block: 13A 16 pos ins block: 2A 24 pos ins block: 2A</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>AC 1500 Vrms (for 1 minute)</td>
<td>250VAC</td>
<td>(2pos.): 100VAC (4pos.): 200VAC (7pos.): 100VAC</td>
<td>(2pos.): 100VAC (4pos.): 220VAC (9pos.): 100VAC</td>
<td>250VAC</td>
<td>250VAC</td>
<td>12 AWG: 250 VAC 16 AWG: 250 VAC 20 AWG: 24 VDC 22 AWG: 24 VDC</td>
<td>4, 6, 16 pos ins blocks: 24VDC 8, 24 pos ins blocks: 250VAC</td>
</tr>
<tr>
<td>Durability</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>100 cycles</td>
<td>100 cycles</td>
<td>30 cycles</td>
<td>100 cycles</td>
<td>100 cycles</td>
<td>100 cycles</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-55°C ~ +85 °C</td>
<td>-20°C ~ +80 °C</td>
<td>-40°C ~ +125 °C</td>
<td>-40°C ~ +125 °C</td>
<td>-25°C ~ +85 °C</td>
<td>-25°C ~ +105 °C</td>
<td>-25°C ~ +85 °C</td>
<td>-10°C ~ +85 °C</td>
</tr>
<tr>
<td>Termination</td>
<td>Crimp/Solder</td>
<td>IDC/Solder</td>
<td>Crimp</td>
<td>Crimp</td>
<td>Crimp</td>
<td>Crimp</td>
<td>Crimp</td>
<td>Crimp</td>
</tr>
<tr>
<td>Locking</td>
<td>Friction</td>
<td>One-touch, screw</td>
<td>Screw</td>
<td>Screw</td>
<td>Friction</td>
<td>Latch Lock</td>
<td>Rack &amp; Pinion Lever</td>
<td>Latch Lock</td>
</tr>
</tbody>
</table>

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**Part Number Guide**

**Industrial I/O Connectors (Rectangular)**

---

**QE6 R 040 L H 01**

- **Modification Code**
  - Figure R: Receptacle
  - E: Plug

- **No. of Contacts**
  - 019: 19 pos.
  - 030: 30 pos.
  - 040: 40 pos.

---

**JN6 A S 04 N J 1**

- **Series**
  - **Connector Type**
    - A: Receptacle (square flange)
    - C: Receptacle (without flange)
  - **Contact Size**
    - J: Size #18
    - M: Size #24
  - **Connection Method**
    - N: Angle Through hole pin
    - P: Crimp pin
    - S: Crimp socket

- **Shell Size**
  - S: 10 to 55 mm
  - R: 5 to 10 mm

- **No. of contacts**

---

**JN14 A H 04 N J 1**

- **Series**
  - **Connector Type**
    - A: Panel mounting receptacle
    - C: Panel mounting receptacle
  - **Contact Size**
    - J: Size #18
    - M: Size #24
  - **Contact Termination**
    - N: Angle Through hole pin
    - P: Crimp pin
    - S: Crimp socket

- **Shell Size**
  - S: 10 to 55 mm
  - R: 5 to 10 mm

- **No. of contacts**

---

**Receptacle: DF02 R *** N A**

- **Modification Code**
  - **Type**
    - R: Receptacle
  - **No. of Contacts**
  - **Plating Specification**
    - A: Contact area Au 0.1µ min.
    - terminal area Sn
  - **Connection Type**
    - G: IDC
    - F: Soldering

- **Compatible Wire**
  - 28: 28AWG
  - 30: 30AWG
  - 22: 22~30AWG

---

**Plug Individual Unit: DF02 P *** A**

- **Modification Code**
  - **Type**
    - P: Plug
  - **No. of Contacts**
  - **Plating Specification**
    - A: Contact area Au 0.1µ min.
    - terminal area Sn
  - **Connection Type**
    - G: IDC
    - F: Soldering

- **Compatible Wire**
  - 28: 28AWG
  - 30: 30AWG
  - 22: 22~30AWG

---

**Hood:** DF02 ****

- **Modification Code**
  - **Type**
    - P: Plug
  - **No. of Contacts**
  - **Lock Type**
    - A: Lock Spring

- **Compatible Cable**
  - 1: Standard
  - 2: Thick Wire Compatible

---

**Clamp Plate:** DF02 H CLP **

- **Type**
  - H: Hood
- **Part Type**
  - CLP: Clamp Plate
- **Applicable Hood**
  - A: 14, 20, 26 pos.
  - B: 36, 50, 68 pos.
- **CLP Development No.**
  - (01 to 99)
## Industrial I/O Connectors [Circular] (1/2)

<table>
<thead>
<tr>
<th>Series</th>
<th>JB5</th>
<th>JB1</th>
<th>JN1 / JN2</th>
<th>JN1W / JN2W</th>
<th>JN1V / JN2V</th>
<th>SRCN</th>
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</thead>
<tbody>
<tr>
<td><strong>Photo</strong></td>
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<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
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<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
</tr>
<tr>
<td><strong>Plug Shell Diameter</strong></td>
<td>ø11.0mm</td>
<td>ø18.0mm</td>
<td>JN1: ø19.0mm, JN2: ø 20.0mm</td>
<td>ø26.2mm</td>
<td>JN1: ø19.0mm, JN2: ø 20.0mm</td>
<td>ø21.2-33.2mm</td>
</tr>
<tr>
<td><strong>Pin Count</strong></td>
<td>3,4,5,6,8</td>
<td>3,5,10</td>
<td>4,10</td>
<td>5,15</td>
<td>10</td>
<td>3,5,7,10,16,24</td>
</tr>
<tr>
<td><strong>Shell Material</strong></td>
<td>Metal</td>
<td>Metal</td>
<td>JN1: Plastic</td>
<td>JN1W: Plastic</td>
<td>JN1: Plastic</td>
<td>Metal and Plastic</td>
</tr>
<tr>
<td><strong>Mated Condition</strong></td>
<td>IP68</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>2 ~ 3A</td>
<td>3A</td>
<td>3 ~ 5A</td>
<td>3 ~ 13A</td>
<td>3A</td>
<td>5 ~ 10A</td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>200VAC ~ 320VAC</td>
<td>300VAC</td>
<td>200VAC</td>
<td>200VAC ~ 400VAC</td>
<td>230VAC</td>
<td>1,000VAC</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>5,000 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
</tr>
<tr>
<td><strong>Lock</strong></td>
<td>Push-pull</td>
<td>Threaded</td>
<td>Push on, twist off</td>
<td>Push on, twist off</td>
<td>Push on, twist off</td>
<td>Threaded</td>
</tr>
<tr>
<td><strong>Operating Temp</strong></td>
<td>-55 ~ +85 °C</td>
<td>-30 ~ +85 °C</td>
<td>-20 ~ +125 °C</td>
<td>-20 ~ +125 °C</td>
<td>-20°C to +125°C</td>
<td>-25 ~ +85 °C</td>
</tr>
<tr>
<td><strong>Wire Size</strong></td>
<td>AWG #22-28</td>
<td>AWG #22-28</td>
<td>AWG #20-28</td>
<td>AWG #14-28</td>
<td>AWG #20-28</td>
<td>AWG #16-20</td>
</tr>
<tr>
<td><strong>Termination</strong></td>
<td>Solder</td>
<td>Crimp</td>
<td>Crimp / Solder</td>
<td>Crimp / Solder</td>
<td>Crimp</td>
<td>Solder</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Small size, Unmated waterproof.</td>
<td>Mated Waterproof</td>
<td>One-touch locking mechanism. JN2 shell is 3x stronger.</td>
<td>One-touch locking mechanism</td>
<td>Increased socket contact points to withstand 25G vibration. Mates with conventional JN1/JN2 receptacle. One-touch locking.</td>
<td>UL approved, 5 insert guide keys.</td>
</tr>
</tbody>
</table>

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## Industrial I/O Connectors [Circular] (2/2)

<table>
<thead>
<tr>
<th>Series</th>
<th>JB10</th>
<th>JL02</th>
<th>JL04V</th>
<th>JL05</th>
<th>JL10</th>
<th>JK06</th>
<th>N/MS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Photo</strong></td>
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<td><img src="image2" alt="JL02 Photo" /></td>
<td><img src="image3" alt="JL04V Photo" /></td>
<td><img src="image4" alt="JL05 Photo" /></td>
<td><img src="image5" alt="JL10 Photo" /></td>
<td><img src="image6" alt="JK06 Photo" /></td>
<td><img src="image7" alt="N/MS Photo" /></td>
</tr>
<tr>
<td><strong>Plug Shell Diameter</strong></td>
<td>ø33.5mm</td>
<td>ø34.1-62.7mm</td>
<td>ø22-56.3mm</td>
<td>ø35.9-51.7mm</td>
<td>ø35.9-58.6mm</td>
<td>ø36.5-66.3</td>
<td>ø22.2-81.8mm</td>
</tr>
<tr>
<td><strong>Pin Count</strong></td>
<td>26</td>
<td>10,17,19,24, 37,48,54</td>
<td>3,4,6,7,8,9,22</td>
<td>4,5,7,8,9,10, 17,19,24,30, 36,37, 52,73</td>
<td>4,9,17,19, 22,37</td>
<td>3,6,7,10,19,37,48</td>
<td>1~11,14,16, 17,19,22,24, 26,35,37, 48,54</td>
</tr>
<tr>
<td><strong>Shell Material</strong></td>
<td>Plastic</td>
<td>Metal</td>
<td>Metal</td>
<td>Metal</td>
<td>Metal</td>
<td>Metal</td>
<td>Metal</td>
</tr>
<tr>
<td><strong>Mated Condition</strong></td>
<td>IP67 (mated)</td>
<td>N/A</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>1A</td>
<td>1.5 ~ 13A</td>
<td>13 ~ 80A</td>
<td>2 ~ 46A</td>
<td>13 ~ 80A</td>
<td>13 ~ 367.9A</td>
<td>13 ~ 150A</td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>100VAC</td>
<td>200VAC ~ 500VAC</td>
<td>100VAC ~ 500VAC</td>
<td>200VAC ~ 900VAC</td>
<td>100VAC ~ 500VAC</td>
<td>220VAC</td>
<td>200VAC ~ 3,000VAC</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
<td>500 cycles</td>
</tr>
<tr>
<td><strong>Lock</strong></td>
<td>One-touch (push-and-twist)</td>
<td>Threaded</td>
<td>Threaded</td>
<td>Bayonet</td>
<td>Bayonet and Threaded</td>
<td>Bayonet</td>
<td>Threaded</td>
</tr>
<tr>
<td><strong>Operating Temp</strong></td>
<td>-20 ~ +125 °C</td>
<td>-55 ~ +85 °C</td>
<td>-55 ~ +125 °C</td>
<td>-55 ~ +125 °C</td>
<td>-55 ~ +125 °C</td>
<td>-55 ~ +85 °C</td>
<td>-55 ~ +125 °C</td>
</tr>
<tr>
<td><strong>Wire Size</strong></td>
<td>AWG #20-28</td>
<td>AWG #14-28</td>
<td>AWG #4-18</td>
<td>AWG #8-26</td>
<td>AWG #0-22</td>
<td>AWG #14-16</td>
<td>AWG #0-16</td>
</tr>
<tr>
<td><strong>Termination</strong></td>
<td>Crimp</td>
<td>Crimp</td>
<td>Solder</td>
<td>Crimp / Solder</td>
<td>Solder</td>
<td>Crimp</td>
<td>Solder</td>
</tr>
</tbody>
</table>
**Part Number Guide**

### Industrial I/O (Circular) Connectors

#### JB10 * X 26 * N *
- C - Jam nut type recp.
- D - Straight plug

#### JL02 - ** * * * * F0 - R *
- 1B - Straight recp.
- 2A - Panel mount recp.
- 6B - Straight plug
- 8B - Right angle plug

#### JL04V- * A - ** * * E - B - ** - R *
- 2A - Recp.
- 2B - Plug
- 6 - Plug, R/A

#### JL05 ** - 24 - 10 PC * ** - R *
- 6A - Straight plug
- 2A - Panel mount recp.
- 2L - Waterproof unmated recp.

#### JL10- * E ** - ** P E - ** *
- 2 - Recp.
- 6 - Straight plug
- 8 - Angle plug

#### JK06 * ** * * *
- Type
  - A - Panel mount recp.
  - K - In-line recp.
  - D - Straight plug (with Endbell)

#### N/MS 310* * ** * *
- 0 - Straight recp.
- 2 - Panel mount recp.
- 6 - Straight plug
- 8 - R/A plug

- modification code (note)
  - 1: Front Mount (Receptacle)
  - 2: Rear Mount (Receptacle)

- Alternate insert position
  - P - Pin Contact
  - S - Socket

- Shell size
- Contact arrangement

- Crimp contacts
- P - Pin
- S - Socket

- Alternate insert position
- Contact arrangement

- E - Waterproof
- A - Waterproof only when mated

- Shell size
- Contact arrangement

- EB - w/ end bell
- E - Earth contact

- P - Pin
- S - Socket

- Shell size
- Contact arrangement

- Modification Code
  - Angle of Insertion
    - N, W, X, Y, Z

- P - Pin
- S - Socket

- No. of Contacts
  - 10, 37, 48

- N/MS 310

- Crimping pin
- Crimping Socket

- Normal
- 26: 26 contacts

- Alternate insert position
- P - Pin Contact
- S - Socket Contact

- Shell Size
- Contact Arrangement
## Board-to-Cable Connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>FI-J</th>
<th>FI-JW</th>
<th>HJ1</th>
<th>HD*</th>
<th>FI-R</th>
<th>FI-X</th>
<th>Single Row</th>
<th>Dual Row</th>
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<tbody>
<tr>
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<td><img src="image6.jpg" alt="Image" /></td>
<td><img src="image7.jpg" alt="Image" /></td>
<td><img src="image8.jpg" alt="Image" /></td>
</tr>
<tr>
<td><strong>Pitch</strong></td>
<td>0.40mm</td>
<td>0.3mm</td>
<td>0.4mm</td>
<td>0.5mm</td>
<td>0.5mm</td>
<td>1.0mm</td>
<td>1.25mm</td>
<td>1.25mm</td>
</tr>
<tr>
<td><strong>Discrete Wire AWG</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>#34,36</td>
<td>#32,34,36</td>
<td>#30,32,36</td>
<td>#30,32,36</td>
<td>#28,30,32</td>
<td>#28,30,32</td>
</tr>
<tr>
<td><strong>Coax Wire AWG</strong></td>
<td>#42,44</td>
<td>#42,44</td>
<td>#36,38,40,42,44</td>
<td>#36,38,40,42,44</td>
<td>#40</td>
<td>#32,40</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>FPC/FFC</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>JF08 Assembly</td>
<td>0.14±0.03mm</td>
<td>0.14±0.03mm</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Pin Count</strong></td>
<td>40</td>
<td>30, 34, 40, 50</td>
<td>50</td>
<td>40</td>
<td>21,31,41,51</td>
<td>30</td>
<td>2-6,8,10,15, 20, 25,30</td>
<td>5,7,9,11,13,15,17, 19,21, 31,41</td>
</tr>
<tr>
<td><strong>Mated Height</strong></td>
<td>1.58mm</td>
<td>1.65mm</td>
<td>0.9mm</td>
<td>1.0mm</td>
<td>3.8mm</td>
<td>1.0-2.35mm</td>
<td>1.8mm</td>
<td>3.7mm</td>
</tr>
<tr>
<td><strong>Locking</strong></td>
<td>Friction</td>
<td>Friction</td>
<td>Friction/Pull Bar</td>
<td>Friction/Pull Bar</td>
<td>Latches</td>
<td>Latches</td>
<td>Latches</td>
<td>Latches</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>30 cycles</td>
<td>50 cycles</td>
<td>50 cycles</td>
<td>50 cycles</td>
<td>50 cycles</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>0.3A</td>
<td>0.25A</td>
<td>0.1A to 1.0A</td>
<td>0.1A to 1.0A</td>
<td>0.8A</td>
<td>1.0A</td>
<td>1.0A</td>
<td>1.0A</td>
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<tr>
<td><strong>Voltage Rating</strong></td>
<td>50V</td>
<td>50V</td>
<td>100V</td>
<td>100V</td>
<td>200V</td>
<td>200V</td>
<td>200V</td>
<td>200V</td>
</tr>
</tbody>
</table>

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**Part Number Guide**

**Board-to-Cable Connectors**

| Receptacle: | FI - JW##S - VF16 |
| Receptacle: | FI - JW##C - SH 1 - 9000 |
| Receptacle: | FI - JW##C - BGB - S - 6000 |
| Receptacle: | HD1S040HA1R6000 |

| Cable Plug: | FI - JW##C - R3000 |
| Cable Plug: | FI - JW##C - CSH1-10000 |
| Cable Plug: | HD1P040MA1R6000 |
| Cable Plug: | FI - R## S - HF |
| Cable Plug: | FI - R## H |
| Cable Plug: | FI - S##P - HFE |
| Cable Plug: | FI - W##P - HFE |

| Plug Shell: | Only orderable in reels |
| Plug Shell: | Only orderable in reels |
| Plug Shell: | Only orderable in reels |
| Plug Shell: | FI - JF08R0R0##0##UA |

| Ground Bar: | Only orderable in reels |
| Ground Bar: | FI - JW##C - CGB - S - 9000 |
| Ground Bar: | FI - JW##C |
| Ground Bar: | HD1P040-CSH1-10000 |
| Ground Bar: | 1: Discrete wire |
| Ground Bar: | 2: Coax wire |

| Cover: | FI - JW##C |
| Cover: | FI - JW##C |
| Cover: | HD1P040-CGB |
| Cover: | Orderable in reels |
| Cover: | Orderable in reels |
| Cover: | HD1P040-PB1 |

| Pull Bar: | HJ1P050-PB1 |
| Pull Bar: | HD1P040-PB1 |
| Pull Bar: | FI - JW##C |
| Pull Bar: | FI - JW##C |
| Pull Bar: | FI - JW##C |

| FFC Harness: | JF08R0R0##0##0##UA |
| FFC Harness: | FI - RC3-1A-1E-15000 (upper) |
| FFC Harness: | FI - RC3-1B-1E-15000 (lower) |

| Crimp Contacts: | FI-RC3-1A-1E-15000 (upper) |
| Crimp Contacts: | FI-RC3-1B-1E-15000 (lower) |
| Crimp Contacts: | FI-XC3B-1-15000 |
| Crimp Contacts: | FI-XC3B-1-15000 |
| Crimp Contacts: | FI-XC3B-1-15000 |

| Hand Crimp Tool: | CT150-4C-FIX |
| Hand Crimp Tool: | CT150-4C-FIX |
| Hand Crimp Tool: | 3502-FI-2B |

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**Single Row**

| Receptacle: | FI - S##P - HFE |
| Receptacle: | FI - S##S |
| Receptacle: | FI - W##S |

| Cable Plug: | FI - X 30S |
| Cable Plug: | FI - X30H |
| Cable Plug: | FI - X30H |

| Modification Code | S: Stronger shell |
| Modification Code | L: Locking latches |
| Modification Code | R: Reverse |

| Cable Plug: | FI - L - HF |
| Cable Plug: | FI - S - H |
| Cable Plug: | FI - S##P - HFE |

| Hand Crimp Tool: | CT150-4C-FIX |
| Hand Crimp Tool: | CT150-4C-FIX |
| Hand Crimp Tool: | 3502-FI-2B |

**Dual Row**

| Receptacle: | FI - TWE##PB - Vf |
| Receptacle: | FI - W##P - HFE |
| Receptacle: | FI - C3-A1-15000 |

| Cable Plug: | FI - TWE##PB - Vf |
| Cable Plug: | FI - W##S |

| Cable Plug: | FI - X30H |

| Hand Crimp Tool: | CT150-4C-FI |
| Hand Crimp Tool: | 3502-FI-2B |

| Crimp Contacts: | FI-XC3B-1-15000 |
| Crimp Contacts: | FI-XC3B-1-15000 |
| Crimp Contacts: | FI-XC3B-1-15000 |

**Orderable in reels**

**Licensed by I-PEX, Co., Ltd.**
# Card Connectors 1
(microSD, CF, DIMM, PCIe, M.2, MXM 3.0)

<table>
<thead>
<tr>
<th>Series</th>
<th>ST1</th>
<th>ST11</th>
<th>ST12</th>
<th>ST19</th>
<th>ST50</th>
<th>MM60</th>
<th>MM70</th>
<th>MM80</th>
<th>JC26/C2</th>
<th>SM3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Photo</strong></td>
<td>![Photo]</td>
<td>![Photo]</td>
<td>![Photo]</td>
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</tr>
<tr>
<td><strong>Card</strong></td>
<td>microSD</td>
<td>microSD</td>
<td>microSD</td>
<td>microSD and nano SIM combo</td>
<td>microSD (UHS-II)</td>
<td>PCI Express Mini Card</td>
<td>MXM 3.0 Graphics Card</td>
<td>DDR3 SDRAM SODIMM</td>
<td>Compact Flash</td>
<td>M.2 (NGFF)</td>
</tr>
<tr>
<td><strong>Mounted Height</strong></td>
<td>1.9mm, 1.4mm</td>
<td>1.25mm</td>
<td>1.4mm</td>
<td>1.3mm</td>
<td>1.35mm</td>
<td>2.125, 4.0, 5.9mm</td>
<td>6.7mm</td>
<td>5.2, 9.2mm</td>
<td>5.8mm, 7.4mm</td>
<td>1.2, 2.15, 3.1, 4.1mm</td>
</tr>
<tr>
<td><strong>Pin Count</strong></td>
<td>8, 8+2</td>
<td>8+2</td>
<td>10+2</td>
<td>20+2</td>
<td>17+2</td>
<td>52,76</td>
<td>310, 314</td>
<td>204</td>
<td>50</td>
<td>67</td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>10V rms</td>
<td>10V rms</td>
<td>10V rms</td>
<td>50VAC rms</td>
<td>10V rms</td>
<td>50VAC rms</td>
<td>50V DC</td>
<td>200V AC rms</td>
<td>N/A</td>
<td>50V AC rms</td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.3A</td>
<td>0.5A</td>
<td>0.5A</td>
<td></td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>10,000 cycles</td>
<td>5,000 cycles</td>
<td>10,000 cycles</td>
<td>2,500 cycles</td>
<td>5,000 cycles</td>
<td>50 cycles</td>
<td>30 cycles</td>
<td>25 cycles</td>
<td>10,000 cycles</td>
<td>60 cycles</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td>Hinged</td>
<td>Push-Push</td>
<td>Push-Push</td>
<td>Pin Eject Tray</td>
<td>Push-push</td>
<td>Card Edge</td>
<td>Card Edge</td>
<td>Card Edge</td>
<td>Ejector</td>
<td>Card Edge</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Available with card detection switch. Smallest footprint &amp; lowest height for hinged type.</td>
<td>Strong mechanical lock to prevent card from popping out from vibration and shock.</td>
<td>2 extra contacts included for RF cards. Easy SMT solder inspection.</td>
<td>3 in 2 combo connector can house a nano SIM and either an additional nano SIM or a microSD.</td>
<td>Compatible with ultra high speed data transmission standard UHS-II for transferring large files quickly.</td>
<td>Retention latch or screw hold downs available to fix module to connector and main PCB.</td>
<td>MXM3.0 standard compatible.</td>
<td>DDR3 SODIMM connector compatible with JEDEC standard MO-268C.</td>
<td>Reverse mount available. Retractable ejector available.</td>
<td>Multiple key and heights variations available.</td>
</tr>
</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Part Number Guide

**Card Connectors**

**MicroSD: ST1W008S4 A R1500**
- Hinged type
- Modification code

**MicroSD: ST1W008S4 G R2000**
- Low profile
- Hinged type

**MicroSD: ST11S008V4HR2000**
- Push-push type

**MicroSD: ST12S010VBAR1800**
- Push-push type

**MicroSD: ST19S020VCAR1400**
- Combo tray type

---

**MXM 3.0 Graphics Card**

**Connector:** MM70-314-310 B 2 - 1
- Contact finish: (Au plating)
  1: 0.1µm min.
  2: 0.3µm min.

**Height modification code**
1: 3.0mm

**Contact**: Blank: 5.2

**M.2 (NGFF)**

**Connector:** SM3 Z S 067 U 310 **
- Polarizing key: A/B/E/M
- Contact finish: (Au plating)
  A: 0.13µm
  B: 0.25µm

**No. of contacts**
- U: On-board
- B: Mid mount

**Connector Height**
- 120: 1.20mm
- 215: 2.15mm
- 310: 3.10mm
- 410: 4.10mm

---

**DDR3 SDRAM SO-DIMM**

**Connector:** MM80 - 204B1 - E1R
- Height modification code
- Blank: Standard
- R: Reverse

**Contact finish**: (Au plating)
- A: 0.13um
- B: 0.25um

**SM3ZS067U215-NUT1**
- 2.15mm connector

**SM3ZS067U310-NUT1**
- 3.1mm connector

**SM3ZS067U410-NUT1**
- 4.1mm connector

---

**PCI Express Mini Card**

**Connector:** MM60 - 52 - B 1 - E 1
- No. of contacts
- Socket type
  B: Top mount
  C: Mid mount
- Key type
- Height modification code

**Latch:** MM60 - EZ - H059 - B 5
- Latch type
- Connector height
- With boss
- 5: Sn plating

**Nut:** NT1R3000
- 4.0mm height connector

**NT4R1600**
- 5.9mm height connector

---

**CompactFlash**

**Connector:** JC26A - BB * E
- Blank: Standard
  16: +1.6mm

**Frame:** JC26C2 - D S R _ E
- Blank: Standard
  16: +1.6mm

---

---
## Card Connectors 2 (SIM, Micro SIM, Nano SIM)

<table>
<thead>
<tr>
<th>Series</th>
<th>SF7</th>
<th>SF8</th>
<th>SF9</th>
<th>SF15</th>
<th>SF53</th>
<th>SF56</th>
<th>SF58</th>
<th>SF70</th>
<th>SF72</th>
<th>SF78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo</td>
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<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
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<td><img src="image5.png" alt="Image" /></td>
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<td><img src="image7.png" alt="Image" /></td>
<td><img src="image8.png" alt="Image" /></td>
<td><img src="image9.png" alt="Image" /></td>
<td><img src="image10.png" alt="Image" /></td>
</tr>
<tr>
<td>Card</td>
<td>SIM</td>
<td>SIM</td>
<td>SIM</td>
<td>Micro SIM</td>
<td>Micro SIM</td>
<td>Micro SIM</td>
<td>Micro SIM</td>
<td>Nano SIM</td>
<td>Nano SIM</td>
<td>Nano SIM</td>
</tr>
<tr>
<td>Mounted Height</td>
<td>1.9mm/1.4mm</td>
<td>1.5mm</td>
<td>1.8mm</td>
<td>1.55mm</td>
<td>1.45mm</td>
<td>1.25mm</td>
<td>1.3mm</td>
<td>1.25mm</td>
<td>1.25mm</td>
<td>1.3mm</td>
</tr>
<tr>
<td>Pin Count</td>
<td>6, 6+2</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6+2</td>
<td>6+2</td>
<td>6+2</td>
<td>12+2</td>
<td></td>
</tr>
<tr>
<td>Card/Tray Detect Switch</td>
<td>Available</td>
<td>Without switch</td>
<td>Without switch</td>
<td>Without switch</td>
<td>Without Switch</td>
<td>With Switch</td>
<td>With Switch</td>
<td>With Switch</td>
<td>With Switch</td>
<td>With Switch</td>
</tr>
<tr>
<td>Current Rating</td>
<td>1A</td>
<td>1A</td>
<td>1A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td>0.5A</td>
<td></td>
</tr>
<tr>
<td>Durability</td>
<td>5,000 cycles</td>
<td>5,000 cycles</td>
<td>5,000 cycles</td>
<td>1,500 cycles</td>
<td>1,500 cycles</td>
<td>5,000 cycles</td>
<td>5,000 cycles</td>
<td>5,000 cycles</td>
<td>2,500 cycles</td>
<td></td>
</tr>
<tr>
<td>Style</td>
<td>Hinged</td>
<td>Push-Pull Tray</td>
<td>Push-Pull Tray</td>
<td>Hinged</td>
<td>Push-Pull</td>
<td>Push-Push</td>
<td>Pin Eject Tray</td>
<td>Pin Eject Tray</td>
<td>Push-Push</td>
<td>Pin Eject Tray</td>
</tr>
<tr>
<td>Features</td>
<td>Reliable locking structure. Positioning boss, metal cover available.</td>
<td>Lowest profile for tray type connector. Normal and reverse mount available.</td>
<td>Normal and reverse mount available.</td>
<td>Small footprint and height. Clear click feeling to indicate when cover is locked.</td>
<td>Unique contact design to prevent damage from angled insertion and use with card adapters.</td>
<td>Smallest in class height. Long eject length for ease of use.</td>
<td>Low profile and narrow design. Strong lock design for high tray retention.</td>
<td>Small size for compact portable devices. Strong lock design for high tray retention.</td>
<td>Low profile; Special contact shape for enhanced reliability.</td>
<td>Low profile dual SIM connector can house 2 nano SIM cards at the same time.</td>
</tr>
</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Part Number Guide

**Card Connectors**

**SF7W 006 S 1 A**
- Hinge type
- 006: 6 position
- 008: 6 signal + 2 switch
- A: Positioning boss
- B: No boss
- E: Low profile
- 1: Standard
- 4: Low profile

**SF7W 006 S 1 A**
- Tray type
- SF8-STS1-A Standard

**Need both Connector and Tray to use SF8 series**

**SF9W006S4AR1200**
- Tray type
- SF9-STS1-A Standard

**Need both Connector and Tray to use SF9 series**

**Micro SIM:**
- **SF15W006S4BR2000**
  - Hinge type

**Micro SIM:**
- **SF53S006VCBR2000**
  - Push-Pull type

**Micro SIM:**
- **SF56K006VBAR2000**
  - Push-Push Type

**Micro SIM:**
- **SF58S006VBAR2000**
  - Tray type

Please contact JAE for recommended dimensions of the tray.

**Micro SIM:**
- **SF70S006VBAR2000**
  - Tray type

Please contact JAE for recommended dimensions of the tray.

**Micro SIM:**
- **SF72S006VBR2500**
  - Tray type

**Nano SIM:**
- **SF78S012VBAR1400**
  - Tray type

Please contact JAE for recommended dimensions of the tray.

**Nano SIM:**
- **SF78S012VBR2500**
  - Tray type

Please contact JAE for recommended dimensions of the tray.
## LED Lighting Connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>ES3</th>
<th>ES3 (WF2)</th>
<th>ES3 (JF3)</th>
<th>ES5</th>
<th>ES6</th>
<th>ES9</th>
<th>ES10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo</td>
<td><img src="image1" alt="Photo" /></td>
<td><img src="image2" alt="Photo" /></td>
<td><img src="image3" alt="Photo" /></td>
<td><img src="image4" alt="Photo" /></td>
<td><img src="image5" alt="Photo" /></td>
<td><img src="image6" alt="Photo" /></td>
<td><img src="image7" alt="Photo" /></td>
</tr>
</tbody>
</table>

### Applicable Wire Size
- **ES3**: #22,24,26
- **ES3 (WF2)**: #22,24,26 (solid)
- **ES3 (JF3)**: #24,26 (solid)
- **ES5**: #22,24,26
- **ES6**: N/A
- **ES9**: #22,24,26
- **ES10**: #24,26 (solid)

### Pin Count
- **ES3**: 2
- **ES3 (WF2)**: 2
- **ES3 (JF3)**: 1
- **ES5**: 1
- **ES6**: 2
- **ES9**: 2,4
- **ES10**: 1

### Height
- **ES3**: 1.6mm (above board)
- **ES3 (WF2)**: 1.65mm (above board)
- **ES3 (JF3)**: 2.9mm
- **ES5**: 1.6mm
- **ES6**: 1.55mm (above board)
- **ES9**: 3mm
- **ES10**: 2.2mm

### Locking
- **ES3**: Friction
- **ES3 (WF2)**: Latch
- **ES3 (JF3)**: Friction
- **ES5**: Latch
- **ES6**: Friction
- **ES9**: Friction
- **ES10**: Friction

### Durability
- **ES3**: 20 cycles
- **ES3 (WF2)**: 20 cycles
- **ES3 (JF3)**: 5 cycles
- **ES5**: 20 cycles
- **ES6**: 20 cycles
- **ES9**: 10 cycles
- **ES10**: 5 cycles

### Current Rating
- **ES3**: 1.0A
- **ES3 (WF2)**: 2.0A
- **ES3 (JF3)**: 2.0A
- **ES5**: 4.0A
- **ES6**: 1.0A
- **ES9**: 3.0A (4 pos.)
- **ES10**: 4.0A (2 pos.)

### Voltage Rating
- **ES3**: 200V
- **ES3 (WF2)**: 200V
- **ES3 (JF3)**: N/A
- **ES5**: N/A
- **ES6**: 250V
- **ES9**: 300V
- **ES10**: N/A

### Operating Temperature
- **ES3**: -40 ~ +105 ºC
- **ES3 (WF2)**: -40 ~ +105 ºC
- **ES3 (JF3)**: -40 ~ +105 ºC
- **ES5**: -40 ~ +105 ºC
- **ES6**: -40 ~ +105 ºC
- **ES9**: -40 ~ +105 ºC
- **ES10**: -40 ~ +105 ºC

### Features
- **ES3**: Card edge connector that eliminates the need for wires to connect between boards.
- **ES3 (WF2)**: Mechanical lock included for use in applications with vibration and shock.
- **ES3 (JF3)**: Tapered insertion for easy mating. No harness assembly required.
- **ES5**: Special lock structure that has a clear “click” feeling for secure mating.
- **ES6**: Smallest size. Card edge connector design to reduce components and labor.
- **ES9**: Spring lock structure provides high vertical and horizontal retention strength.
- **ES10**: Compact structure with no insulator allows design flexibility. Easy single wire insertion.

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Part Number Guide

ES3-WF1 Series (Card Edge type)
Receptacle: ES3B002WF1R1000

ES3-JF3 Series (Cable insertion type)
Receptacle: ES3S001JF3R3300

ES3-WF2 Series (Board-to-Wire type)
Receptacle: ES3B002WF2R1000
Housing: ES3S002SZA
Contact: IL-Z-C1-A-7000

ES5 Series
Receptacle: ES5S001JFAR5500
Cable Plug: ES5P09K5FA
#24-26AWG
Cable Plug: ES5P09K4F2
#22AWG

ES6 Series
Receptacle: ES6B002WF1R1000

ES9 Series
Receptacle: ES9P 00# VF1R1600
No. of contacts:
002: 2
004: 4
Plug (housing): ES9S 00# SZA
No. of contacts:
002: 2
004: 4
Contact: ES9S06K4FA

ES10 Series
Receptacle: ES10S001JF1R5500

LED Lighting Connectors
## High-Power Connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>DW1</th>
<th>DW2</th>
<th>DW3</th>
<th>DW4</th>
<th>DW05</th>
<th>DW07</th>
<th>KB1</th>
<th>KW1</th>
<th>KW03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo</td>
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<td><img src="image9.png" alt="Image" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Rack-and-Panel</td>
<td>Rack-and-Panel</td>
<td>Rack-and-Panel</td>
<td>Board-to-Cable</td>
<td>Cable-to-Cable</td>
<td>Bus bar-to-Bus bar</td>
<td>Cable-to-Cable</td>
<td>Plug + Cable</td>
<td>Plug + Cable</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>Power: 500A Signal: 2A</td>
<td>Power: 200A Signal: 2A</td>
<td>Power: 150A Signal: 2A</td>
<td>100A</td>
<td>150A</td>
<td>Current value (in A) that temperature rise will be 30 K or 65 K x safety ratio (80%)</td>
<td>25A max. (KB1-12-PC/SC)</td>
<td>10A max. (KB1-12-PC2/SC2)</td>
<td></td>
</tr>
<tr>
<td><strong>Voltage Rating</strong></td>
<td>Power: 600V Signal: 100V</td>
<td>Power: 600V Signal: 100V</td>
<td>Power: 600V Signal: 100V</td>
<td>600V</td>
<td>600V</td>
<td>N/A</td>
<td>1000VDC / 6000VAC</td>
<td>DC500V</td>
<td>DC450A</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>20 cycles</td>
<td>100 cycles</td>
<td>100 cycles</td>
<td>50 cycles</td>
<td>100 cycles</td>
<td>100 cycles</td>
<td>50 cycles</td>
<td>10,000 cycles</td>
<td>10,000 cycles</td>
</tr>
<tr>
<td><strong>Floating Range</strong></td>
<td>+/- 2.75mm</td>
<td>+/-2.75mm</td>
<td>+/-2.0mm</td>
<td>N/A</td>
<td>N/A</td>
<td>+/-2.5mm</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Operating Temp</strong></td>
<td>-40 ~ +95 °C</td>
<td>-25 ~ +115 °C</td>
<td>-25 ~ +105 °C</td>
<td>-40 ~ +75 °C</td>
<td>-40 ~ +85 °C</td>
<td>-25 ~ +105 °C</td>
<td>-40 ~ +90 °C</td>
<td>-10 ~ +40 °C</td>
<td>-30 ~ +40 °C</td>
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</tbody>
</table>

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Part Number Guide

High-Power Connectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Modification Code</th>
<th>Plating of Contact Area</th>
<th>Connection Type</th>
<th>No. of Contacts</th>
<th>Notes</th>
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<tbody>
<tr>
<td>DW1 * 002</td>
<td>Z  H  1</td>
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<td>R: Receptacle</td>
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<td>P: Plug</td>
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<td>No. of Contacts</td>
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<td>P: Plug</td>
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<tr>
<td></td>
<td>020: 20 pos.</td>
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<td>DW1 * 04K</td>
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<tr>
<td></td>
<td>S: Crimp, socket</td>
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</tr>
<tr>
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<td>P: Crimp, pin</td>
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<td>No. of Contacts</td>
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<tr>
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<td>K: unit of 1000 pcs.</td>
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<td>P: Plug (with Cable)</td>
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<tr>
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<td>No. of Contacts</td>
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<tr>
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<td>001: 1 pos.</td>
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<td>P: Pin</td>
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<td>DW07 S 01</td>
<td>B AG *</td>
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<tr>
<td></td>
<td>01: 1 contact</td>
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<tr>
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<td></td>
<td>P: Plug</td>
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<tr>
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<td>No. of Contacts</td>
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<tr>
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<td>DW3 * 012</td>
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<td>P: Plug</td>
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<tr>
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<td>012: 12 pos.</td>
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<td>DW5 * 04K</td>
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<td>S: Crimp, socket</td>
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<td>P: Crimp, pin</td>
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<tr>
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<td>No. of Contacts</td>
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<td>04K: 4000 pcs.</td>
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<td>Reel Part Number</td>
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<tr>
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<td>K: unit of 1000 pcs.</td>
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<td>(Note 1)</td>
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<tr>
<td>KB1 J S 01</td>
<td>G * L</td>
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</tr>
<tr>
<td></td>
<td>L: With Unlock Tab</td>
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</tr>
<tr>
<td>KB2 J S 01</td>
<td>G * L</td>
<td></td>
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</tr>
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<td>KB3 J S 01</td>
<td>G * L</td>
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<td></td>
</tr>
<tr>
<td>KB4 J S 01</td>
<td>G * L</td>
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<td>KB5 J S 01</td>
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<td>KB7 J S 01</td>
<td>G * L</td>
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<td>KB8 J S 01</td>
<td>G * L</td>
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<tr>
<td>KB9 J S 01</td>
<td>G * L</td>
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</table>

Note 1: An embossed reel contains 4,000 pcs.
<table>
<thead>
<tr>
<th>Series</th>
<th>MX19</th>
<th>MX23A</th>
<th>MX36</th>
<th>MX37</th>
<th>MX44</th>
<th>MX47</th>
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<tr>
<td><strong>Photo</strong></td>
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<td><img src="image2.jpg" alt="Image" /></td>
<td><img src="image3.jpg" alt="Image" /></td>
<td><img src="image4.jpg" alt="Image" /></td>
<td><img src="image5.jpg" alt="Image" /></td>
<td><img src="image6.jpg" alt="Image" /></td>
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<tr>
<td><strong>Pitch</strong></td>
<td>2.5mm</td>
<td>2.5mm</td>
<td>2.5mm</td>
<td>2.2mm</td>
<td>3.5mm</td>
<td>2.5mm</td>
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<tr>
<td><strong>Wire Size</strong></td>
<td>AWG #22-20, CAVS: 0.3 to 0.5mm², AVSS: 0.5mm²</td>
<td>AWG #22-16, AVSS, AVS: 0.5 to 1.25mm²</td>
<td>AWG #20, AVSS 0.5, AVSS 0.5F, AVSSX 0.5f, TVSSX 0.5f</td>
<td>AWG #20, AVSS 0.5, AVSS 0.5F, AVSSX 0.5f, TVSSX 0.5f</td>
<td>AWG #22-20, AVSS 0.3 to 0.5mm²</td>
<td>AWG #22-16, AVSS 0.3 to 1.25mm²</td>
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<tr>
<td><strong>Pin Count</strong></td>
<td>2,3*,4</td>
<td>12,18,26,34,36,40</td>
<td>2,4</td>
<td>4</td>
<td>2,4,6</td>
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<td><strong>Current Rating</strong></td>
<td>5A</td>
<td>3A</td>
<td>3A</td>
<td>3A</td>
<td>3A</td>
<td>3A</td>
</tr>
<tr>
<td><strong>Operating Temp</strong></td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +125 °C</td>
<td>-40 ~ +125 °C</td>
<td>-40 ~ +105 °C</td>
<td>-40 ~ +125 °C</td>
<td>-40 ~ +125 °C</td>
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<tr>
<td><strong>Application</strong></td>
<td>Cable-to-Cable</td>
<td>Board-to-Cable</td>
<td>Cable-to-Cable</td>
<td>Cable-to-Cable</td>
<td>Board-to-Cable</td>
<td>Board-to-Cable</td>
</tr>
</tbody>
</table>

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Part Number Guide

### MX3600
- **Socket housing:** MX3600#SQ3
- **Pin housing:** MX3600#PQ3
- **Front cap:** MX36004XF3
- **Contacts:**
  - MX19S10K451 (socket)
  - MX19P10K451 (pin)
  - MX19000XD1
- **Hand Tool:** CT150-4C-MX19
- **Semi auto:** 3502-MX19-2B

### MX3700
- **Socket housing:** MX37004SP3
- **Pin housing:** MX37004PP3
- **Contacts:**
  - M36S08K4Q3 (socket)
  - M36P08K4Q3 (pin)
  - M37S07K4P3
  - M37P75C4P3
- **Hand Tool:** CT160-3B-MX23
- **Semi auto:** 350-MX23-2

### MX3800
- **Socket housing:** MX3800#SQ3
- **Pin housing:** MX3800#PQ3
- **Front cap:** MX38004XF3
- **Contacts:**
  - M38S08K4Q3 (socket)
  - M38P08K4Q3 (pin)
  - M39S07K4P3
  - M39P75C4P3
- **Hand Tool:** CT160-3B-MX23
- **Semi auto:** 350-MX23-2

### MX4400
- **Socket housing:** MX44000XP
- **Pin header:** MX44000XP1
- **Retainer:** MX44000XR1
- **Wire seal:** MX44000XP1
- **Contacts:**
  - M44S05K4F1
  - CT150-4C-MX19
  - 3502-MX44-2
- **Wire O.D.:** 1: 1.4-1.5mm
  - 2: 1.6-1.7mm

### MX1900
- **Socket housing:** MX1900#S51
- **Pin housing:** MX1900#P51
- **Front cap:** MX19A003S51
- **Hand Tool:** CT150-4C-MX19
- **Semi auto:** 3502-MX19-2B

### MX2300
- **Socket housing:** MX23A##SF1
- **Pin header:** MX23A##NF1
- **Front cap:** MX23A##XF1
- **Contacts:**
  - M23S05K351
  - M120-55780
- **Hand tool:** CT160-3B-MX23
- **Semi auto:** 350-MX23-2

### MX4700
- **Socket housing:** MX47039SF1
- **Pin header:** MX47039NF1
- **Front cap:** MX47039XF1

### MX4700
- **Socket housing:** MX47039SF1
- **Pin header:** MX47039NF1
- **Front cap:** MX47039XF1

### Contacts

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<tr>
<th>Wire Size (AWG)</th>
<th>M47S65H2FA</th>
<th>M47S65H3FA</th>
<th>M47S65H4FA</th>
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<tbody>
<tr>
<td>#22-20</td>
<td>#18</td>
<td>#16</td>
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<tr>
<td>Series</td>
<td>IL-AG5</td>
<td>IL-AG9</td>
<td>MX31</td>
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<td><img src="image2.png" alt="Photo" /></td>
<td><img src="image3.png" alt="Photo" /></td>
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<tr>
<td><strong>Pitch</strong></td>
<td>2.5mm</td>
<td>2.5mm</td>
<td>2.2mm</td>
</tr>
<tr>
<td><strong>Wire Size</strong></td>
<td>AWG #22-20</td>
<td>AWG #22-20</td>
<td>AWG #22-20</td>
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<tr>
<td></td>
<td>AWG #18</td>
<td>AWG #18</td>
<td>AWG #22-16</td>
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<tr>
<td></td>
<td>AV, AVS, AVSS: 0.3 to 0.5 mm²</td>
<td>AV, AVS, AVSS: 0.3 to 0.5 mm²</td>
<td>AVS, AVSS: 0.85 mm²</td>
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<td></td>
<td>AVS, AVSS: 0.85 mm²</td>
<td>AVS, AVSS: 0.85 mm²</td>
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<tr>
<td><strong>Pin Count</strong></td>
<td>1 row: 4,5,6,7,10</td>
<td>2 rows: 14,16,18,22,30</td>
<td>2,3</td>
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<td></td>
<td>Pin: 70,98,104,135</td>
<td>Socket: 31,34,35</td>
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<tr>
<td><strong>Current Rating</strong></td>
<td>3A</td>
<td>3A</td>
<td>3A</td>
</tr>
<tr>
<td><strong>Operating Temp</strong></td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Cable-to-Cable/Board-to-Cable</td>
<td>Cable-to-Cable</td>
<td>Board-to-Cable</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Mechanical lock system enabling complete mating. Secondary lock mechanism to ensure correct terminal retention. Simplified crimp type termination.</td>
<td>Mechanical lock system enabling complete mating. Double hook mechanism to prevent contacts from being inserted or removed incompletely.</td>
<td>Mechanical lock system with audible click. Socket side contact designed with secondary lock. Simplified crimp type termination.</td>
</tr>
</tbody>
</table>

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**Part Number Guide**

**Wire Size (AWG):**
- 0.13mm², 0.22mm², 0.3mm², 0.85mm²

**Modification Code:**
- U: Straight
- N: Angled
- V: Straight
- H: Angled
- Blank: tube
- T: tray

**Contacts:**
- MX34S75C4F1
- MX34S75C4F2
- MX34S75C4F3
- MX34S75C4F4

**Wire Size:**
- 0.22 – 0.35mm²
- 0.5 – 0.75mm²
- 0.35mm²
- 0.85mm²

**Socket Housing:**
- MX31 ### SGA
- MX77A0###SF1
- MX84B0###SF1

**SMT Pin Header:**
- MX34R##VF1

**T/H Pin Header:**
- MX340##UF1

*S: single row
D: double row
L: right angle
T: straight

*Contacts in common with MX34 Series
<table>
<thead>
<tr>
<th>Series</th>
<th>MX38</th>
<th>MX39/MX45</th>
<th>MX48</th>
<th>MX49</th>
<th>MX50/53</th>
<th>MX55</th>
<th>MX62</th>
<th>MX65</th>
<th>MX79A</th>
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</thead>
<tbody>
<tr>
<td>Photo</td>
<td>![Photo MX38]</td>
<td>![Photo MX39/MX45]</td>
<td>![Photo MX48]</td>
<td>![Photo MX49]</td>
<td>![Photo MX50/53]</td>
<td>![Photo MX55]</td>
<td>![Photo MX62]</td>
<td>![Photo MX65]</td>
<td>![Photo MX79A]</td>
</tr>
<tr>
<td>Pitch</td>
<td>2.0mm</td>
<td>2.2 mm</td>
<td>2.0mm</td>
<td>2.0mm</td>
<td>1.5mm</td>
<td>2.2mm</td>
<td>2.0mm</td>
<td>2mm</td>
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<tr>
<td>Wire Size</td>
<td>AWG #28 (Twin Ax)</td>
<td>AWG #28 Twin Ax</td>
<td>AWG #28 (Twin AX)</td>
<td>Signal: AWG #26 (Twin Ax)</td>
<td>Power: AWG #20</td>
<td>AWG #28 (Twin Ax)</td>
<td>Signal: AWG #26(Twin Ax)</td>
<td>Power: AWG #22</td>
<td>Signal: AWG #26 STQ</td>
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<td>2</td>
<td>4</td>
<td>19</td>
<td>4</td>
<td>10</td>
<td>4/4+2, 8</td>
<td>4</td>
</tr>
<tr>
<td>Current Rating</td>
<td>Varies by cable type*</td>
<td>500 mA</td>
<td>Varies by cable type*</td>
<td>Signal: 0.5A</td>
<td>0.5A</td>
<td>Varies by cable type*</td>
<td>Power: 2.2A</td>
<td>1.5A</td>
<td>Signal: 2A</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +85 °C</td>
<td>-40 ~ +105 °C</td>
<td>-40 ~ +85 °C</td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td>Cable-to-Cable/ Board-to-Cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>Excellent in transmission of high-speed signals such as LVDS and GVIF. Different key options available.</td>
<td>USB 2.0 compatible, sold as complete harness with USB standard receptacle</td>
<td>Excellent in transmission of high-speed signals such as LVDS and GVIF. Different key options available. Extremely compact design.</td>
<td>Compatible with USB 2.0 signal speeds. Different key options available. Extremely compact design.</td>
<td>HDMI Type E compatible connector and harnesses.</td>
<td>Waterproof connector for LVDS transmission from digital cameras. Right angle and straight plug available.</td>
<td>Compatible with USB 3.0 signal connectors. Waterproof and non waterproof variations available. Pin headers not provided by JAE.</td>
<td>Mating compatible with HSD connectors. Waterproof and non waterproof variations available. Pin headers not provided by JAE.</td>
<td>Compatible with LVDS or USB 2.0 signal speeds. Different key options available. Extremely compact design.</td>
</tr>
</tbody>
</table>

*Contact us for more information.

View all JAE connectors at [www.JAE.com](http://www.JAE.com)
Pin header: **MX35 # 01 N P1**  
- N: angle  
- T: straight  
- Different key code

**Key Codes:**
- **Angle type:**  
  - B: white  
  - C: blue  
  - E: green  
  - F: brown  
  - G: blue-gray  
  - H: violet  
  - K: yellow

- **Straight type:**  
  - B: white  
  - C: blue  
  - E: green  
  - F: brown  
  - I: beige

**Board Mounting Receptacle:**  
- **MX38002FQ1**  
- Different key code: 1,2,3,4

**Pin header:**  
- **MX38002NQ1**

**JAE will supply the complete mating harness designed to customer specifications.**

**Board Mounting Receptacle:**  
- **MX39004NQ1**

**USB Harness:**  
- **MX45004S0008397 (150mm)**

**JAE will supply the complete mating harness designed to customer specifications.**

**Board Mounting Receptacle:**  
- **MX48002NQ1**  
- Different key code: 1,2,3,4

**JAE will supply the complete mating harness designed to customer specifications.**

**Board mounting receptacle:**  
- **MX50019NQ1**

**JAE will supply the complete mating harness designed to customer specifications.**

**Camera back housing connector:**  
- **MX55A06ZB2**

**Board mounting header:**  
- **MX55006KQ1R600**

**JAE will supply the complete mating harness designed to customer specifications.**

**Board mounting header:**  
- **MX62010HQ1R100**

**JAE will supply the complete mating harness designed to customer specifications.**

**MX65 Series Harness**

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