SPRING-LOADED CONNECTORS
MILL-MAX SPRING-LOADED CONNECTORS ARE IDEAL FOR A WIDE RANGE OF APPLICATIONS, from portable data acquisition units and mobile communication to medical and military equipment applications. Their unique design can be the perfect solution for many situations where establishing an electrical path between mating points is a challenge, including problematic vibratory environments.

When strategically placed within an assembly and utilized correctly (shielded from over compression and direct side load forces,) spring-loaded connectors provide a reliable connection exceeding a million cycles.

SOME TYPICAL APPLICATIONS INCLUDE:

- The internal battery connection in portable instruments, or as the external battery connection for charging these instruments (docking stations).
- As a method for stacking printed circuit boards in an assembly. Utilizing spring pin connectors is a convenient approach to creating mezzanine-tiered board modules that can be assembled and disassembled quickly.
- Blind-mating applications: The spring pin piston need only make contact with its mating surface. This is typically a land or pad that is larger than the plunger diameter. In situations where the assembly process doesn’t allow for visibility, spring pins are the optimum choice.

MILL-MAX SPRING-LOADED CONNECTORS CAN MATE TO THE FOLLOWING SURFACES:

- A conductive input/output pad found on the instrument pack itself.
- A gold-plated land on a circuit board. A hard gold over nickel-plated surface is recommended for the mating surface. This is the same as would be used for the printed circuit fingers associated with card edge connectors.
- Individual Mill-Max gold-plated nail head pins which can be soldered to the mating circuit board to serve as targets.
- Mill-Max Target Connectors which provide a large, flat gold-plated circuit path to the board.
SPRING-LOADED CONNECTORS

SERIES 815 & 817 • 2,54 GRID SURFACE MOUNT, ULTRA LOW PROFILE • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in a height of 2,54, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 0,3 mid. stroke and a 0,61 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- 815 & 817 series contact strips are designed for manual placement onto a 2,08 Ø solder pad prior to reflow soldering

ORDERING INFORMATION

Single Row Series 815

Specify number of contacts

815-22-0XX-30-001101

For 815 and 817 Tape & Reel packaging, see page 12.1

Double Row Series 817

Specify number of contacts

817-22-0XX-30-001101

For 815 and 817 Tape & Reel packaging, see page 12.1

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51 μm gold over 2,54 μm nickel
- Spring: Beryllium copper-plated 0,25 μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0,3): 60 grams
- Durability: Up to 1,000,000 cycles
- Coplanarity: 0,13 (Single Row up to 10 pins; Double Row up to 20 pins)
- For higher pin counts, contact Technical Support

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.
SPRING-LOADED CONNECTORS

SERIES 811 & 813 • 2,54 GRID SURFACE MOUNT, LOW PROFILE • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in five heights from 3,48 to 5,99, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a long stroke relative to the low profile of the assembly
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 811 & 813 series, contact styles 1 through 4, are available on 32mm wide carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481. See page 12 for strip lengths available and ordering information

ORDERING INFORMATION

### Single Row Series 811

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
<th>MAX. STROKE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3,48</td>
<td>0,99</td>
</tr>
<tr>
<td>1</td>
<td>4,50</td>
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<td>1,39</td>
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<tr>
<td>4</td>
<td>5,99</td>
<td>1,39</td>
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**Specify number of contacts** 04-72  **Specify contact style** 0-4

### Double Row Series 813

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
<th>MAX. STROKE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3,48</td>
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<tr>
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<td>1,39</td>
</tr>
<tr>
<td>4</td>
<td>5,99</td>
<td>1,39</td>
</tr>
</tbody>
</table>

**Specify number of contacts** 04-72  **Specify contact style** 0-4

**For 811 and 813 Tape & Reel packaging, see page 12**

### Technical Specifications

**Materials:**
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (B/2): 60 grams
- Durability: Up to 1,000,000 cycles
- Coplanarity: 0,13 (Single Row up to 10 pins; Double Row up to 20 pins)
- For higher pin counts, contact Technical Support

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS-2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 812 & 814 • 2,54 GRID SURFACE MOUNT, MID PROFILE • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in ten heights from 6.48 to 10.92, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Extended body provides greater bearing surface for increased strength & plunger protection
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 812 & 814 series, contact styles 0 through 9, are available on 32mm or 44mm wide carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481. See page 12 for strip lengths available and ordering information

**Technical Specifications**

**Materials:**
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 10μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 1,000,000 cycles
- Coplanarity: 0.13 (Single Row up to 10 pins; Double Row up to 20 pins), For higher pin counts, contact Technical Support

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Single Row Series 812</th>
<th>Double Row Series 814</th>
</tr>
</thead>
<tbody>
<tr>
<td>812-22-0XX-30-00X101</td>
<td>814-22-0XX-30-00X101</td>
</tr>
<tr>
<td>Specify number of contacts 02-64</td>
<td>Specify contact style 0-9</td>
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<tr>
<td>Specify contact style 0-9</td>
<td>Specify contact style 0-9</td>
</tr>
<tr>
<td>For 812 and 814 Tape &amp; Reel packaging, see page 12</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
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<tbody>
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<td>8,89</td>
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<td>6,99</td>
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<td>9,4</td>
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<td>7,49</td>
<td>7</td>
<td>9,91</td>
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<tr>
<td>3</td>
<td>8,0</td>
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<tr>
<td>4</td>
<td>8,51</td>
<td>9</td>
<td>10,92</td>
</tr>
</tbody>
</table>

**RoHS - 2**

2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 819 & 820 • 2,54 GRID SURFACE MOUNT, LONG STROKE • SINGLE AND DOUBLE ROW STRIPS

• Modular contacts for use on 2,54 grid, available in a height of 7,32, supplied in single and double row contact strips
• Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
• Pistons have a 1,14 mid. stroke and a 2,29 max. stroke
• Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
• High temperature thermoplastic insulators are suitable for surface mount processes
• Both 819 & 820 series contact strips are designed for placement onto a Ø 2,08 solder pad prior to reflow soldering
• Both 819 & 820 series, are available on carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481. See page 12.1 for strip lengths available and ordering information

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Single Row Series 819</th>
<th>Double Row Series 820</th>
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</thead>
<tbody>
<tr>
<td>819-22-0XX-30-001101</td>
<td>820-22-0XX-30-001101</td>
</tr>
<tr>
<td>Specify number of contacts 01-64</td>
<td>Specify number of contacts 04-72</td>
</tr>
<tr>
<td>For 819 and 820 Tape &amp; Reel packaging, see page 12.1</td>
<td>For 819 and 820 Tape &amp; Reel packaging, see page 12.1</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 0,25μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (1,14): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2011/65/EU
SINGLE ROW Series 837

- Modular contacts for use on 2.54 grid, available in single and double row contact strips with recommended rated travel of 0.76 - 2.54 and max. stroke of 3.0 +0/-0.25
- Precision-machined piston / base and gold-plated components
- Extended body provides greater bearing surface for increased strength & plunger protection
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for SMT soldering processes
- Both 837 & 839 series, are available on 44mm wide carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481
- 837 & 839 series contact strips are designed for manual or automatic placement onto 2.08 Ø solder pads

DOUBLE ROW Series 839

- Modular contacts for use on 2.54 grid, available in single and double row contact strips with recommended rated travel of 0.76 - 2.54 and max. stroke of 3.0 +0/-0.25
- Precision-machined piston / base and gold-plated components
- Extended body provides greater bearing surface for increased strength & plunger protection
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for SMT soldering processes
- Both 837 & 839 series, are available on 44mm wide carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481
- 837 & 839 series contact strips are designed for manual or automatic placement onto 2.08 Ø solder pads

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Series</th>
<th>Specification</th>
<th>Contact Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>837-22-0XX-30-001103</td>
<td>parallel, 2.54, 3.0 stroked</td>
<td>04-72</td>
</tr>
<tr>
<td>839-22-0XX-30-001191</td>
<td>parallel, 2.54, 3.0 stroked</td>
<td>04-24</td>
</tr>
<tr>
<td>837-22-0XX-30-001191</td>
<td>parallel, 2.54, 3.0 stroked</td>
<td>04-24</td>
</tr>
<tr>
<td>839-22-0XX-30-001191</td>
<td>parallel, 2.54, 3.0 stroked</td>
<td>04-24</td>
</tr>
</tbody>
</table>

Materials:
- Contact piston & base: Machined copper alloy plated 0.51 µm gold over 2.54 µm nickel
- Spring: Stainless steel-plated 0.25 µm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (1.5): 85 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2
2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 810 • 2,54 GRID HORIZONTAL SURFACE MOUNT • SINGLE ROW STRIPS

- Modular contacts for use on 2,54 grid, supplied in single row contact strips. Piston action is parallel to the board surface
- Ideal for daisy chaining of P.C.B.’s when mated with right angle target connectors (series 399...10-008) or for mating boards in a perpendicular orientation
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 1.14 mid. stroke & 2.29 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- 810 series contact strips are designed for manual placement onto solder pads

ORDERING INFORMATION

Single Row Series 810

Specify number of contacts 01-10

810-22-0XX-40-001101

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51 µm gold over 2.54 µm nickel
- Spring: Beryllium copper-plated 0.25 µm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (1.14): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

Suggested P.C.B. FOOTPRINT

Coplanarity 0.13. For Pin Counts >10 positions consult Technical Support
SERIES 810 • 2,54 GRID HORIZONTAL SURFACE MOUNT • SINGLE ROW STRIPS

- Modular contacts for use on 2,54 grid, supplied in single row contact strips. Piston action is parallel to the board surface
- Ideal for daisy chaining of P.C.B’s when mated with horizontal surface mount target connectors series 319-10-1XX-40-080001 or for mating boards in a perpendicular orientation
- Pistons have a 1.14 mid. stroke & 2.29 max. stroke
- High temperature thermoplastic insulators are suitable for surface mount processes
- The 810 series are packaged on tape & reel - 16, 24, 32 or 44 mm wide x 16 mm pitch, making them simple to integrate into existing pick & place equipment and assembly processes. The tape packaging is per EIA-481-D

**ORDERING INFORMATION**

Series 810 (Tape & Reel Packaged)

<table>
<thead>
<tr>
<th>Number of Contacts</th>
<th>Tape Width (Size A)</th>
<th>Quantity per Reel</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>16mm</td>
<td>1,450</td>
</tr>
<tr>
<td>3</td>
<td>16mm</td>
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<tr>
<td>4</td>
<td>24mm</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>24mm</td>
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<tr>
<td>7</td>
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<td>8</td>
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<tr>
<td>9</td>
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<tr>
<td>10</td>
<td>44mm</td>
<td>1,450</td>
</tr>
</tbody>
</table>

**Technical Specifications**

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring (Contact style 2-10): Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (Contact style 2-10): 25 grams
- Spring force @ mid stroke (Contact style 2-10): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
SPRING-LOADED CONNECTORS

SERIES 812 & 814 • 2,54 GRID SURFACE MOUNT WITH ALIGNMENT PINS • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in ten heights from 6.48 to 10.92, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 0.7 mid stroke & 1.4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 812 & 814 series contact strips are designed for manual placement, Ø 0.71±0.076 plated through-holes in the circuit board are required for the alignment pins prior to intrusive reflow soldering

ORDERING INFORMATION

Single Row Series 812...01X101

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6.48</td>
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<tr>
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<td>4</td>
<td>8.51</td>
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Specify number of contacts 03-64
Specify contact style 0-9

812-22-0XX-30-01X101

Double Row Series 814...01X101

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>8.89</td>
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</tr>
<tr>
<td>8</td>
<td>10.41</td>
</tr>
<tr>
<td>9</td>
<td>10.92</td>
</tr>
</tbody>
</table>

Specify number of contacts 06-72
Specify contact style 0-9

814-22-0XX-30-01X101

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.
# Ordering Information for Series 811/812/813/814 in Carrier Tape

<table>
<thead>
<tr>
<th>Single Row Series 811</th>
<th>Double Row Series 813</th>
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</thead>
<tbody>
<tr>
<td>811-22-0XX-30-00X191</td>
<td>813-22-0XX-30-00X191</td>
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<tr>
<td><strong>Specify contact style</strong> 0-4</td>
<td><strong>Specify contact style</strong> 0-4</td>
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<tr>
<td><strong>Specify number of contacts</strong> 02-08</td>
<td></td>
</tr>
<tr>
<td>(32mm wide tape, 400 parts per 330mm reel)</td>
<td>(32mm wide tape, 400 parts per 330mm reel)</td>
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</table>

<table>
<thead>
<tr>
<th>Single Row Series 811</th>
<th>Double Row Series 813</th>
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<tbody>
<tr>
<td>811-22-0XX-30-00X191</td>
<td>813-22-0XX-30-00X191</td>
</tr>
<tr>
<td><strong>Specify contact style</strong> 1-4</td>
<td><strong>Specify contact style</strong> 1-4</td>
</tr>
<tr>
<td><strong>Specify number of contacts</strong> 09-12</td>
<td></td>
</tr>
<tr>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Row Series 812</th>
<th>Double Row Series 814</th>
</tr>
</thead>
<tbody>
<tr>
<td>812-22-0XX-30-00X191</td>
<td>814-22-0XX-30-00X191</td>
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<tr>
<td><strong>Specify contact style</strong> 0-2</td>
<td><strong>Specify contact style</strong> 0-2</td>
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<td>(32mm wide tape, 400 parts per 330mm reel)</td>
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<table>
<thead>
<tr>
<th>Single Row Series 812</th>
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<td>812-22-0XX-30-00X191</td>
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<tr>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
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<table>
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<tr>
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<th>Double Row Series 814</th>
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<tbody>
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<td>814-22-0XX-30-00X191</td>
</tr>
<tr>
<td><strong>Specify contact style</strong> 3-9</td>
<td><strong>Specify contact style</strong> 3-9</td>
</tr>
<tr>
<td><strong>Specify number of contacts</strong> 02-12</td>
<td></td>
</tr>
<tr>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
</tr>
</tbody>
</table>

### Diagram

- Vacuum pick-up clip removed after soldering.
- 32mm wide, 9mm deep or 44mm wide, 13mm deep.

---

**Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com**
# SPRING-LOADED CONNECTORS

## SERIES 815, 817, 819, 820 • 2,54 GRID SURFACE MOUNT • CARRIER TAPE AND PACKAGING

### Ordering Information for Series 815/817/819/820 in Carrier Tape

<table>
<thead>
<tr>
<th>Single Row Series 815</th>
<th>Double Row Series 817</th>
</tr>
</thead>
<tbody>
<tr>
<td>815-22-0XX-30-001191</td>
<td>817-22-0XX-30-001191</td>
</tr>
<tr>
<td><strong>Specify number of pins</strong></td>
<td><strong>Specify number of pins</strong></td>
</tr>
<tr>
<td>02-10</td>
<td>04-20</td>
</tr>
<tr>
<td>(44mm wide tape, 910 parts per 330mm reel)</td>
<td>(44mm wide tape, 680 parts per 330mm reel)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Row Series 819</th>
<th>Double Row Series 820</th>
</tr>
</thead>
<tbody>
<tr>
<td>819-22-0XX-30-001191</td>
<td>820-22-0XX-30-001191</td>
</tr>
<tr>
<td><strong>Specify number of pins</strong></td>
<td><strong>Specify number of pins</strong></td>
</tr>
<tr>
<td>02-08</td>
<td>04-16</td>
</tr>
<tr>
<td>(32mm wide tape, 400 parts per 330mm reel)</td>
<td>(32mm wide tape, 400 parts per 330mm reel)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Row Series 819</th>
<th>Double Row Series 820</th>
</tr>
</thead>
<tbody>
<tr>
<td>819-22-0XX-30-001191</td>
<td>820-22-0XX-30-001191</td>
</tr>
<tr>
<td><strong>Specify number of pins</strong></td>
<td><strong>Specify number of pins</strong></td>
</tr>
<tr>
<td>09-12</td>
<td>18-24</td>
</tr>
<tr>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
<td>(44mm wide tape, 200 parts per 330mm reel)</td>
</tr>
</tbody>
</table>

- VACUUM PICK-UP CLIP REMOVED AFTER SOLDERING

---

**Note:**
- The diagrams illustrate the dimensions and layout of the series 815, 817, 819, and 820 spring-loaded connectors, including the vacuum pick-up clip, which should be removed after soldering.
SPRING-LOADED CONNECTORS

SERIES 821 & 823 • 2,54 GRID THROUGH-HOLE MOUNT • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in five heights from 3,48 to 5,99, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a long stroke relative to the low profile of the assembly
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 821 & 823 series contact strips are designed for manual placement into Ø 0,76±0,076 plated through-holes in the circuit board prior to hand, wave or reflow soldering

ORDERING INFORMATION

Single Row Series 821

821-22-0XX-10-00X101

Specify number of contacts 02-64
Specify contact style 0-4

Double Row Series 823

823-22-0XX-10-00X101

Specify number of contacts 04-72
Specify contact style 0-4

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL HEIGHT A</th>
<th>MAX. STROKE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3,48</td>
<td>0,99</td>
</tr>
<tr>
<td>1</td>
<td>4,50</td>
<td>1,14</td>
</tr>
<tr>
<td>2</td>
<td>5,0</td>
<td>1,39</td>
</tr>
<tr>
<td>3</td>
<td>5,51</td>
<td>1,39</td>
</tr>
<tr>
<td>4</td>
<td>5,99</td>
<td>1,39</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (B/2): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS-2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 825 & 827 • 2,54 GRID THROUGH-HOLE MOUNT, LONG STROKE • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in four heights from 7,67 to 9,96, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 1,14 mid. stroke and a 2,29 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 825 & 827 series contact strips are designed for manual placement into Ø0,965±0,076 plated through-holes in the circuit board prior to hand, wave or reflow soldering

ORDERING INFORMATION

### Single Row Series 825

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height A</th>
<th>Max. Stroke B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7,67</td>
<td>2,29</td>
</tr>
<tr>
<td>2</td>
<td>8,43</td>
<td>2,29</td>
</tr>
<tr>
<td>3</td>
<td>9,19</td>
<td>2,29</td>
</tr>
<tr>
<td>4</td>
<td>9,96</td>
<td>2,29</td>
</tr>
</tbody>
</table>

Specify number of contacts 02-64 Specify contact style 1-4

### Double Row Series 827

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height A</th>
<th>Max. Stroke B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7,67</td>
<td>2,29</td>
</tr>
<tr>
<td>2</td>
<td>8,43</td>
<td>2,29</td>
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<tr>
<td>3</td>
<td>9,19</td>
<td>2,29</td>
</tr>
<tr>
<td>4</td>
<td>9,96</td>
<td>2,29</td>
</tr>
</tbody>
</table>

Specify number of contacts 04-72 Specify contact style 1-4

Technical Specifications

**Materials:**
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (B/2): 60 grams
- Durability: Up to 1,000,000 cycles

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS-2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 816 & 818 • 2,54 GRID THROUGH-HOLE MOUNT, MID PROFILE • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, available in ten heights from 6.48 to 10.92, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 0.7 mid stroke & 1.4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- Both 816 & 818 series contact strips are designed for manual placement into Ø 0.76±0.076 plated through-holes in the circuit board prior to intrusive reflow soldering

ORDERING INFORMATION

Single Row Series 816...00X101

<table>
<thead>
<tr>
<th>Specify number of contacts</th>
<th>Specify contact style</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-64</td>
<td>0-9</td>
</tr>
</tbody>
</table>

Double Row Series 818...00X101

<table>
<thead>
<tr>
<th>Specify number of contacts</th>
<th>Specify contact style</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-72</td>
<td>0-9</td>
</tr>
</tbody>
</table>

CONTACT STYLE | INITIAL HEIGHT A | CONTACT STYLE | INITIAL HEIGHT A
0             | 6.48             | 5             | 8.89
1             | 6.99             | 6             | 9.4
2             | 7.49             | 7             | 9.91
3             | 8.0              | 8             | 10.41
4             | 8.51             | 9             | 10.92

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm, gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (A): 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS-2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 804 & 805 • 2.54 GRID THROUGH-HOLE MOUNT • LONG STROKE
TRIPLE ROW STRIPS AND MATING TARGET CONNECTORS

• Modular contacts for use on 2.54 grid, supplied in triple row contact strips
• Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
• Spring pins have a 1,14 mid. stroke and a 2,29 max. stroke
• Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
• 804 & 805 series high temperature thermoplastic insulators are suitable for wave and reflow processes
• 804 series contact strips are designed for manual placement into Ø 0.965±0.076 plated through-holes in the circuit board prior to hand, wave or reflow soldering
• 805 series Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. This series is offered with a concave face for making contact with our standard 1.07 dia. spring pin plungers

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Triple Row Series 804</th>
<th>804-22-0XX-10-004101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of contacts</td>
<td>09-96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Triple Row Mating Target Series 805</th>
<th>805-10-0XX-00-006000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of contacts</td>
<td>09-96</td>
</tr>
</tbody>
</table>

Technical Specifications for 804 Series

- **Materials:**
  - Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
  - Spring: Beryllium copper-plated 0.25μm gold
  - Insulator: High temperature thermoplastic, rated UL94 V-0

- **Mechanical:**
  - Spring force @ initial height: 25 grams
  - Spring force @ mid stroke (1.14): 60 grams
  - Durability: Up to 1,000,000 cycles

- **Electrical:**
  - Voltage rating: 100Vrms/150Vdc
  - Current rating: 2A (continuous), 3A (peak) per contact
  - Contact resistance: 20mΩ max.
  - Insulation resistance: 10,000MΩ min.
  - Dielectric strength: 700Vrms min.
  - Capacitance: 1pF max.

RoHS - 2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 829 • 2,54 GRID RIGHT ANGLE MOUNT • SINGLE ROW STRIPS

- Modular contacts for use on 2,54 grid. Supplied in single row strips with mounting pegs for support
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for wave and reflow processes
- 829 series contact strips are designed for manual placement into Ø 0,94±0,076 plated through-holes in the circuit board prior to wave or reflow soldering

ORDERING INFORMATION

Single Row Series 829

<table>
<thead>
<tr>
<th>CONTACT STYLE</th>
<th>INITIAL LENGTH A</th>
<th>MAX. STROKE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10,54</td>
<td>1,4</td>
</tr>
<tr>
<td>2</td>
<td>10,31</td>
<td>2,3</td>
</tr>
</tbody>
</table>

Specify number of contacts 01-20 Specify contact style 1 or 2

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial length (A): 25 grams
- Spring force @ mid stroke (B/2): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 824 & 826 • 2,54 GRID SOLDERCUP HEADER • SINGLE AND DOUBLE ROW STRIPS

• Modular contacts for use on 2,54 grid, supplied in single and double row contact strips
• Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
• Pistons have a 0.7 mid. stroke and a 1.4 max. stroke
• Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
• Insulators are high temperature thermoplastic
• Both 824 & 826 series strips have spring pins with wire termination soldercups. The soldercups are aligned to provide easy access for soldering up to size 22 AWG wires

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Single Row Series 824</th>
</tr>
</thead>
<tbody>
<tr>
<td>824-22-0XX-00-001000</td>
</tr>
<tr>
<td>Specify number of contacts 01-64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Double Row Series 826</th>
</tr>
</thead>
<tbody>
<tr>
<td>826-22-0XX-00-001000</td>
</tr>
<tr>
<td>Specify number of contacts 04-72</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0,7): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 824 & 826 • 2,54 GRID SOLDERCUP HEADER • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2,54 grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 1,14 mid. stroke and a 2,29 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- Insulators are high temperature thermoplastic
- Both 824 & 826 series strips have spring pins with wire termination soldercups. The soldercups are aligned to provide easy access for soldering up to size 24 AWG wires

ORDERING INFORMATION

Single Row Series 824

824-22-0XX-00-005000
Specify number of contacts 01-64

Double Row Series 826

826-22-0XX-00-005000
Specify number of contacts 02-72

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (1,14): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS-2 2011/65/EU
**SPRING-LOADED CONNECTORS**

**SERIES 854 & 855 • 1,27 GRID THROUGH-HOLE MOUNT • SINGLE AND DOUBLE ROW STRIPS**

- Modular contacts for use on 1,27 grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
- Pistons have a 0,7 mid. stroke and a 1,4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for wave and reflow processes
- Both 854 & 855 series contact strips are designed for manual placement into Ø 0,64±0,076 plated through-holes in the circuit board prior to hand, wave or reflow soldering

**ORDERING INFORMATION**

**SINGLE ROW Series 854**

Specify number of contacts 02-20

854-22-0XX-10-001101

**DOUBLE ROW Series 855**

Specify number of contacts 04-40

855-22-0XX-10-001101

**Technical Specifications**

**Materials:**
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0,7): 60 grams
- Durability: Up to 100,000 cycles

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.
SPRING-LOADED CONNECTORS

SERIES 854 & 855 • 1,27 GRID THROUGH-HOLE MOUNT • SINGLE AND DOUBLE ROW STRIPS WITHOUT STANDOFFS

- Modular contacts for use on 1,27 grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
- Pistons have a 0,7 mid. stroke and a 1,4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for wave and reflow processes
- Both 854 & 855 series contact strips are designed for manual placement into Ø 0,64±0,076 plated through-holes in the circuit board prior to hand, wave or reflow soldering

ORDERING INFORMATION

Single Row Series 854

854-22-0XX-10-002101

Specify number of contacts 02-20

Double Row Series 855

855-22-0XX-10-002101

Specify number of contacts 04-40

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0,7): 60 grams
- Durability: Up to 100,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 854 • 1,27 GRID RIGHT ANGLE MOUNT • SINGLE ROW STRIPS

- Modular contacts for use on 1,27 grid. Supplied in single row strips with or without mounting pegs
- Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
- Pistons have a 0.7 mid. stroke & 1.4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for wave and reflow soldering processes
- 854 series contact strips are designed for through-hole mounting in the circuit board

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Single Row Series 854</th>
<th>854-22-0XX-20-001101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of contacts</td>
<td>01-20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Row with Mounting Pegs Series 854</th>
<th>854-22-0XX-20-601101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of contacts</td>
<td>01-20</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 100,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2 2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 854 • 1,27 GRID Z-BEND SURFACE MOUNT • SINGLE ROW STRIPS

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 100,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2011/65/EU

ORDERING INFORMATION

Series 854 without Mounting Pegs (Bulk Packaged)
854-22-0XX-40-001101
Specify number of contacts 01-20

Series 854 with Mounting Pegs (Bulk Packaged)
854-22-0XX-40-601101
Specify number of contacts 01-20

Series 854 with Mounting Pegs (Tape & Reel Packaged, 2,400 parts per reel)
854-22-0XX-40-601191
Specify number of contacts 02

Suggested P.C.B. Footprint

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com
SPRING-LOADED CONNECTORS

SERIES 854 & 855 • 1,27 GRID SOLDERCUP HEADER • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 1,27 grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
- Pistons have a 0,7 mid. stroke and a 1,4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- Insulators are high temperature thermoplastic
- Both 854 & 855 series strips have spring pins with wire termination soldercups. The soldercups are aligned to provide easy access for soldering up to size 26 AWG wires

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Single Row Series 854</th>
<th>Double Row Series 855</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of contacts 01-50</td>
<td>Specify number of contacts 02-100</td>
</tr>
<tr>
<td>854-22-0XX-10-003101</td>
<td>855-22-0XX-10-003101</td>
</tr>
</tbody>
</table>

Technical Specifications

**Materials:**
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0,7): 60 grams
- Durability: Up to 100,000 cycles

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS - 2 2011/65/EU
**SPRING-LOADED CONNECTORS**

**SERIES 854 & 855 • 1,27 GRID SURFACE MOUNT, HIGH DENSITY • SINGLE AND DOUBLE ROW STRIPS**

- Modular contacts for use on 1,27 grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
- Pistons have a 0,7 mid. stroke and a 1,4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for surface mount processes
- 854 & 855 series contact strips are designed for manual placement onto 1,02 Ø solder pads
- 855 series is also available on tape & reel packaging, see page 19.1

---

### SINGLE ROW Series 854

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact piston &amp; base</td>
<td>0,48</td>
</tr>
<tr>
<td>Spring force @ initial height</td>
<td>25 grams</td>
</tr>
<tr>
<td>Spring force @ mid stroke (0.7)</td>
<td>60 grams</td>
</tr>
<tr>
<td>Durability</td>
<td>Up to 100,000 cycles</td>
</tr>
</tbody>
</table>

### DOUBLE ROW Series 855

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact piston &amp; base</td>
<td>0,48</td>
</tr>
<tr>
<td>Spring force @ initial height</td>
<td>25 grams</td>
</tr>
<tr>
<td>Spring force @ mid stroke (0.7)</td>
<td>60 grams</td>
</tr>
<tr>
<td>Durability</td>
<td>Up to 100,000 cycles</td>
</tr>
</tbody>
</table>

---

### ORDERING INFORMATION

**Single Row Series 854**

- Specify number of contacts 02-20

**Double Row Series 855**

- Specify number of contacts 04-40

For 855 Tape & Reel packaging, see page 19.1

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### Technical Specifications

**Materials:**
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 100,000 cycles

**Electrical:**
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.
SPRING-LOADED CONNECTORS

SERIES 855 • 1,27 GRID SURFACE MOUNT, HIGH DENSITY • DOUBLE ROW STRIPS ON TAPE & REEL

• Modular contacts for use on 1,27 grid, supplied in single and double row contact strips
• Precision-machined piston / base and gold-plated components assure up to 100,000 cycle life durability
• Pistons have a 0.7 mid. stroke and a 1.4 max. stroke
• Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
• High temperature thermoplastic insulators are suitable for surface mount processes
• 855 series is available on carrier tape for automated pick and place assembly. Tape and Reel packaging per EIA-481. For details contact Mill-Max Technical support

DOUBLE ROW Series 855

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 100,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

ORDERING INFORMATION

- Double Row Series 855
  - Specify number or pins
  - 855-22-0XX-30-002191
  - Tape & Reel packaged = 191
  - 660 parts per 330mm reel

- Positions: 6, 10, 14, 18, 22, 26, 30, 34, 38 the Pick n Place Vacuum Cap will be offset from center by 0.64mm
- Positions: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 the Pick n Place Vacuum Cap will be centered

Series 855 w/ removable pick n place cap

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com
SPRING-LOADED CONNECTORS

SERIES 836 & 838 • 2mm GRID SURFACE MOUNT • SINGLE AND DOUBLE ROW STRIPS

• Modular contacts for use on 2mm grid, available in single and double row contact strips with rated travel of 0.7 and max. stroke of 1.4
• Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
• Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
• High temperature thermoplastic insulators are suitable for SMT soldering processes
• Both 836 & 838 series, are available on 32mm wide carrier tape and fitted with vacuum pick-up clips for automated pick and place assembly. Tape and Reel packaging per EIA-481
• 836 & 838 series contact strips are designed for manual or automatic placement onto 1.68 Ø solder pads

ORDERING INFORMATION

Series 836 (Bulk Packaged)

836-22-0XX-30-001101

Specify number of contacts 02-10

Series 836 (Tape & Reel Packaged, 400 parts per 330mm Reel)

836-22-0XX-30-001191

Specify number of contacts 02-10

Series 838 (Bulk Packaged)

838-22-0XX-30-001101

Specify number of contacts 04-20

Series 838 (Tape & Reel Packaged, 400 parts per 330mm Reel)

838-22-0XX-30-001191

Specify number of contacts 04-20

Technical Specifications

Materials:
Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
Spring: Stainless Steel-plated 0.25μm gold
Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
Spring force @ initial height: 25 grams
Spring force @ mid stroke (0.7): 60 grams
Durability: Up to 1,000,000 cycles

Electrical:
Voltage rating: 100Vrms/150Vdc
Current rating: 2A (continuous), 3A (peak) per contact
Contact resistance: 20mΩ max.
Insulation resistance: 10,000MΩ min.
Dielectric strength: 700Vrms min.
Capacitance: 1pF max.

RoHS-2
2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 807 • DISCRETE INSULATED SPRING-LOADED PINS • SURFACE MOUNT

- Discrete insulated spring-loaded pins; available in seven heights from 2.54 to 5.99, with rated travel from 0.3 to 0.7
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Low resistance contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for SMT soldering processes
- 807 series, contact styles 0 through 6, are available in bulk or on 16mm wide carrier tape for automated pick and place assembly. Tape and Reel packaging per EIA-481. See below for ordering information

ORDERING INFORMATION

Series 807 (Bulk Packaged)

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.53</td>
<td>0.3</td>
<td>0.51–0.61</td>
<td>1.39</td>
<td>2,620</td>
</tr>
<tr>
<td>1</td>
<td>3.48</td>
<td>0.5</td>
<td>0.76–0.99</td>
<td>2.08</td>
<td>1,750</td>
</tr>
<tr>
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<td>3.94</td>
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<td>0.89–0.99</td>
<td>2.29</td>
<td>1,750</td>
</tr>
<tr>
<td>3</td>
<td>4.50</td>
<td>0.7</td>
<td>1.14–1.4</td>
<td>2.69</td>
<td>1,055</td>
</tr>
<tr>
<td>4</td>
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<td>0.7</td>
<td>1.14–1.4</td>
<td>3.2</td>
<td>780</td>
</tr>
<tr>
<td>5</td>
<td>5.51</td>
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<td>1.14–1.4</td>
<td>3.71</td>
<td>780</td>
</tr>
<tr>
<td>6</td>
<td>5.99</td>
<td>0.7</td>
<td>1.14–1.4</td>
<td>4.19</td>
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</tr>
</tbody>
</table>

Series 807 (Tape & Reel Packaged)

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.54</td>
<td>0.3</td>
<td>0.51–0.61</td>
<td>1.39</td>
<td>2,620</td>
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<tr>
<td>1</td>
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<td>0.5</td>
<td>0.76–0.99</td>
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<td>1,750</td>
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<tr>
<td>2</td>
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<td>2.29</td>
<td>1,750</td>
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<tr>
<td>3</td>
<td>4.50</td>
<td>0.7</td>
<td>1.14–1.4</td>
<td>2.69</td>
<td>1,055</td>
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<tr>
<td>4</td>
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<td>1.14–1.4</td>
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<td>780</td>
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<tr>
<td>5</td>
<td>5.51</td>
<td>0.7</td>
<td>1.14–1.4</td>
<td>3.71</td>
<td>780</td>
</tr>
<tr>
<td>6</td>
<td>5.99</td>
<td>0.7</td>
<td>1.14–1.4</td>
<td>4.19</td>
<td>780</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
Spring (Contact style 0): Stainless Steel-plated 0.25μm gold
Spring (Contact style 1-6): Beryllium copper-plated 0.25μm gold
Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
Spring force @ initial height (A) (Contact style 0-6): 25 grams
Spring force @ mid stroke (B/2) (Contact style 0): 70 grams
Spring force @ mid stroke (B/2) (Contact style 1-6): 60 grams
Durability: Up to 1,000,000 cycles

Electrical:
Current rating: 2A (continuous), 3A (peak) per contact
Contact resistance: 20mΩ max.
Insulation resistance: 10,000MΩ min.
Dielectric strength: 700Vrms min.
SPRING-LOADED CONNECTORS

SERIES 807 • DISCRETE INSULATED SPRING-LOADED PINS • SURFACE MOUNT

- Discrete insulated spring-loaded pins; available in ten heights from 6,48 to 10,92, with rated travel of 0,7
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Low resistance contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for most SMT soldering processes
- 807 series, contact styles 0 through 9, are available in bulk or on 16mm wide carrier tape for automated pick and place assembly. Tape and Reel packaging per EIA-481. See below for ordering information

ORDERING INFORMATION

Series 807 (Bulk Packaged)

807-22-001-30-01X101

Specify contact style 0-9

Series 807 (Tape & Reel Packaged)

807-22-001-30-01X191

Specify contact style 0-9

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Tape Depth (C)</th>
<th>Quantity per Reel</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>6,48</td>
<td>0,7</td>
<td>1,14-1,4</td>
<td>7,24</td>
<td>750</td>
</tr>
<tr>
<td>1</td>
<td>6,99</td>
<td>0,7</td>
<td>1,14-1,4</td>
<td>7,24</td>
<td>750</td>
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<tr>
<td>2</td>
<td>7,49</td>
<td>0,7</td>
<td>1,14-1,4</td>
<td>8,28</td>
<td>600</td>
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<td>8,0</td>
<td>0,7</td>
<td>1,14-1,4</td>
<td>8,28</td>
<td>600</td>
</tr>
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<td>0,7</td>
<td>1,14-1,4</td>
<td>9,17</td>
<td>550</td>
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<td>8,89</td>
<td>0,7</td>
<td>1,14-1,4</td>
<td>9,17</td>
<td>550</td>
</tr>
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<td>6</td>
<td>9,4</td>
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<td>8</td>
<td>10,41</td>
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<td>11,2</td>
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<td>1,14-1,4</td>
<td>11,2</td>
<td>430</td>
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</tbody>
</table>

Technical Specifications:

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring (Contact style 0-9): Beryllium copper-plated 0,25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (A) (Contact style 0-9): 25 grams
- Spring force @ mid stroke (B/2) (Contact style 0-9): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.

RoHS - 2
2011/65/EU
SPRING-LOADED CONNECTORS

SERIES 807 • DISCRETE INSULATED SPRING-LOADED PINS • THROUGH-HOLE MOUNT

- Discrete insulated spring-loaded pins; available in six heights from 3.48 to 6.0, with rated travel of 0.5 & 0.7
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Low resistance contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for most SMT soldering processes
- 807 series, contact styles 1 through 6, are available in bulk or on 24mm wide carrier tape for automated pick and place assembly. Tape and Reel packaging per EIA-481. See below for ordering information

ORDERING INFORMATION

### Series 807 (Bulk Packaged)

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Tape Depth (D)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.48</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>2.08</td>
<td>6.0</td>
<td>880</td>
</tr>
<tr>
<td>2</td>
<td>3.94</td>
<td>0.5</td>
<td>0.89-1.0</td>
<td>2.29</td>
<td>6.0</td>
<td>880</td>
</tr>
<tr>
<td>3</td>
<td>4.5</td>
<td>0.7</td>
<td>1.14-1.4</td>
<td>2.69</td>
<td>7.07</td>
<td>745</td>
</tr>
<tr>
<td>4</td>
<td>5.0</td>
<td>0.7</td>
<td>1.14-1.4</td>
<td>3.2</td>
<td>7.07</td>
<td>745</td>
</tr>
<tr>
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<td>5.51</td>
<td>0.7</td>
<td>1.14-1.4</td>
<td>3.71</td>
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<td>640</td>
</tr>
<tr>
<td>6</td>
<td>6.0</td>
<td>0.7</td>
<td>1.14-1.4</td>
<td>4.19</td>
<td>8.06</td>
<td>640</td>
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</tbody>
</table>

### Series 807 (Tape & Reel Packaged)

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Tape Depth (D)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.48</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>2.08</td>
<td>6.0</td>
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<tr>
<td>2</td>
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<td>0.5</td>
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<td>6.0</td>
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<tr>
<td>3</td>
<td>4.5</td>
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<td>7.07</td>
<td>745</td>
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<tr>
<td>4</td>
<td>5.0</td>
<td>0.7</td>
<td>1.14-1.4</td>
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<tr>
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<tr>
<td>6</td>
<td>6.0</td>
<td>0.7</td>
<td>1.14-1.4</td>
<td>4.19</td>
<td>8.06</td>
<td>640</td>
</tr>
</tbody>
</table>

### Technical Specifications

**Materials:**
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Springs (Contact style 1-6): Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height (A) (Contact style 1-6): 25 grams
- Spring force @ mid stroke (B/2) (Contact style 1-6): 60 grams
- Durability: Up to 1,000,000 cycles

**Electrical:**
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
**SPRING-LOADED CONNECTORS**

**SERIES 807 • DISCRETE INSULATED SPRING-LOADED PINS • THROUGH-HOLE MOUNT**

- Discrete insulated spring-loaded pins; available in four heights from 6.96 to 9.25, with rated travel of 1.14
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Low resistance contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for most soldering processes
- 807 series, contact styles 0 through 3, are packaged in bulk. See below for ordering information

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**ORDERING INFORMATION**

**Series 807 (Bulk Packaged)**

```
807-22-001-10-02X101
```

Specify contact style 0-3

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6.96</td>
<td>1.14</td>
<td>2.16-2.29</td>
<td>4.19</td>
</tr>
<tr>
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<td>7.72</td>
<td>1.14</td>
<td>2.16-2.29</td>
<td>4.19</td>
</tr>
<tr>
<td>2</td>
<td>8.48</td>
<td>1.14</td>
<td>2.16-2.29</td>
<td>4.19</td>
</tr>
<tr>
<td>3</td>
<td>9.25</td>
<td>1.14</td>
<td>2.16-2.29</td>
<td>4.19</td>
</tr>
</tbody>
</table>

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**Technical Specifications**

**Materials:**
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring (Contact style 0-3): Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height (A) (Contact style 0-3): 25 grams
- Spring force @ mid stroke (B/2) (Contact style 0-3): 60 grams
- Durability: Up to 1,000,000 cycles

**Electrical:**
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.

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**RoHS - 2 2011/65/EU**
SPRING-LOADED CONNECTORS

SERIES 836 & 838 • 2MM GRID THROUGH-HOLE MOUNT • SINGLE AND DOUBLE ROW STRIPS

- Modular contacts for use on 2mm grid, supplied in single and double row contact strips
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability
- Pistons have a 0.7 mid. stroke and a 1.4 max. stroke
- Low resistance, high current contacts are rated at 2 amps continuous, 3 amps peak
- High temperature thermoplastic insulators are suitable for wave and reflow processes
- Both 836 & 838 series contact strips are designed for manual placement into Ø 0.84±0.076 plated through-holes in the circuit board prior to soldering

ORDERING INFORMATION

Single Row Series 836
836-22-0XX-10-001101
Specify number of contacts 01-50

Double Row Series 838
838-22-XXX-10-001101
Specify number of contacts 04-100

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring: Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 25 grams
- Spring force @ mid stroke (0.7): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Voltage rating: 100Vrms/150Vdc
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.
- Capacitance: 1pF max.

RoHS 2 2011/65/EU
SERIES 858 • 4MM GRID RUGGED DUAL PLUNGER SOLDERLESS CONNECTOR

- Rugged Modular contacts for use on 4mm grid, supplied in 2 - 6 position connectors
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability (Rated @ Mid-Stroke)
- Low resistance, high current contacts are rated at 9 amps @ 10°C Temperature rise
- Designed for solderless, compression connections between PCB's and/or devices
- Mounting tabs on the housing provide a means for secure attachment to the PCB and may be specified with or without threaded inserts
- Series 858-22-00X-80-0X1101 connectors are designed with dual action plungers. Each plunger is capable of achieving a 1,14 max. travel individually or simultaneously. Maximum combined stroke of both plungers is 2,29 per spring pin
- Series 858-22-00X-80-0X2101 connectors are designed with dual action plungers. One plunger is capable of achieving a 0,76 max. travel and the other is capable of achieving a 1,52 max. travel. Plungers can achieve their max. travel individually or simultaneously. Maximum combined stroke of both plungers is 2,29 per spring pin
- See Catalog page 19.74 for assemblies with Alignment pegs

ORDERING INFORMATION

Series 858 (1,14 travel each Plunger)

<table>
<thead>
<tr>
<th>858-22-00X-80-0X1101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of pins 2-6</td>
</tr>
<tr>
<td>No Threaded inserts = 0</td>
</tr>
<tr>
<td>(#4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

Series 858 (0,76 &1,52 travel Plungers)

<table>
<thead>
<tr>
<th>858-22-00X-80-0X2101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of pins 2-6</td>
</tr>
<tr>
<td>No Threaded inserts = 0</td>
</tr>
<tr>
<td>(#4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 5.08µm gold over 2.54µm nickel
- Spring: Stainless Steel 302
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 35 grams
- Spring force @ mid stroke: 120 grams
- Durability: Up to 1,000,000 cycles (Rated @ Mid-Stroke)

Electrical:
- Current rating: 9A @ 10°C Temp. rise above ambient (20°C)
- Contact resistance: 20mΩ max. (Rated @ Mid-Stroke)
- Insulation resistance: 10,000MΩ min.
**SPRING-LOADED CONNECTORS**

**SERIES 858 • 4MM GRID RUGGED DUAL PLUNGER SOLDERLESS CONNECTOR WITH ALIGNMENT PEGS**

- Rugged Modular contacts for use on 4mm grid, supplied in 2 - 6 position connectors
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability (Rated @ Mid-Stroke)
- Low resistance, high current contacts are rated at 9 amps @ 10°C Temperature rise
- Designed for solderless, compression connections between PCB's and/or devices
- Mounting tabs on the housing provide a means for secure attachment to the PCB and may be specified with or without threaded inserts
- The housing has alignment pegs included to aid in positioning of connector during assembly
- Series 858-22-00X-80-6X1101 connectors are designed with dual action plungers. Each plunger is capable of achieving a 1,14 max. travel individually or simultaneously. Maximum combined stroke of both plungers is 2,29 per spring pin
- Series 858-22-00X-80-6X2101 connectors are designed with dual action plungers. One plunger is capable of achieving a 0,76 max. travel and the other is capable of achieving a 1,52 max. travel. Plungers can achieve their max. travel individually or simultaneously. Maximum combined stroke of both plungers is 2,29 per spring pin
- See Catalog page 19.73 for assemblies without Alignment pegs

**ORDERING INFORMATION**

**Series 858 (1,14 travel each Plunger)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>858-22-00X-80-6X1101</th>
<th>No Threaded inserts = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of pins</td>
<td>2-6</td>
<td>(#4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

**Series 858 (0,76 &1,52 travel Plungers)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>858-22-00X-80-6X2101</th>
<th>No Threaded inserts = 0</th>
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</thead>
<tbody>
<tr>
<td>Specify number of pins</td>
<td>2-6</td>
<td>(#4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

**Technical Specifications**

**Materials:**
- Contact piston & base: Machined copper alloy plated 5,08µm gold over 2,54µm nickel
- Spring: Stainless Steel 302
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height: 35 grams
- Spring force @ mid stroke: 120 grams
- Durability: Up to 1,000,000 cycles (Rated @ Mid-Stroke)

**Electrical:**
- Current rating: 9A @ 10°C Temp. rise above ambient (20°C)
- Contact resistance: 20mΩ max. (Rated @ Mid-Stroke)
- Insulation resistance: 10,000MΩ min.
SPRING-LOADED CONNECTORS

SERIES 858 • 4MM GRID RUGGED CONNECTOR • SURFACE MOUNT AND THROUGH HOLE MOUNT

- Rugged Modular contacts for use on 4mm grid, supplied in 2 - 6 position connectors
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability. Pistons have a 1,14 mid. stroke and a 2,29 max. stroke
- Mounting tabs provide a means for secure attachment to the PCB and may be specified with or without threaded inserts
- Low resistance, high current contacts are rated at 9 amps @ 10°C Temperature rise
- High temperature thermoplastic insulators are suitable for wave and reflow processes
- Series 858-22-00X-10-0X1101 connectors are designed for manual placement into 1,32±0,076 Ø plated through-holes in the circuit board prior to soldering
- Series 858-22-00X-30-0X1101 and 858-22-00X-30-6X1101 connectors are designed for manual placement onto 2,54 Ø solder pads

ORDERING INFORMATION

**Series 858 (Through-Hole Mount)**

858-22-00X-10-0X1101

Specify number of pins 2-6  
No Threaded inserts = 0  
(#4-40) Threaded inserts = 1

**Series 858 (Surface Mount)**

858-22-00X-30-0X1101

Specify number of pins 2-6  
No Threaded inserts = 0  
(#4-40) Threaded inserts = 1

**Series 858 (Surface Mount with Alignment Pins)**

858-22-00X-30-6X1101

Specify number of pins 2-6  
No Threaded inserts = 0  
(#4-40) Threaded inserts = 1

**Technical Specifications**

**Materials:**
- Contact piston & base: Machined copper alloy plated 5,08μm gold over 2,54μm nickel
- Spring: Stainless Steel 302
- Insulator: High temperature thermoplastic, rated UL94 V-0

**Mechanical:**
- Spring force @ initial height: 35 grams
- Spring force @ mid stroke: 120 grams
- Durability: Up to 1,000,000 cycles

**Electrical:**
- Current rating: 9A @ 10° C Temp. rise above ambient (20°C)
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.

RoHS - 2  
2011/65/EU
• Rugged Target Connectors for use on 4mm grid, supplied in 2 - 6 position connectors
• Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our 858-22-00X-X0-XX1101 series spring-loaded connectors
• Target connectors use MM #1959-0 and #1969-0 pins. See page 223.5 for details
• Mounting tabs provide a means for secure attachment to the PCB and may be specified with or without threaded inserts
• High temp. thermoplastic insulators are suitable for wave and reflow soldering processes
• Series 858-10-00X-10X1000 connectors are designed for manual placement into 1,32±0,076 Ø plated through-holes in the circuit board prior to soldering
• Series 858-10-00X-30X1000 and 858-10-00X-30-6X1000 connectors are designed for manual placement onto 2,54 Ø minimum solder pads

ORDERING INFORMATION

### Series 858 (Through-Hole Mount)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>858-10-00X-10X1000</td>
<td>2-6 pins</td>
<td>No Threaded inserts = 0</td>
</tr>
<tr>
<td></td>
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<td>(4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

### Series 858 (Surface Mount)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>858-10-00X-30X1000</td>
<td>2-6 pins</td>
<td>No Threaded inserts = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

### Series 858 (Surface Mount with Alignment Pins)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>858-10-00X-30-6X1000</td>
<td>2-6 pins</td>
<td>No Threaded inserts = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4-40) Threaded inserts = 1</td>
</tr>
</tbody>
</table>

RoHS-2 2011/65/EU

XX=Plating Code
See Below

SPECIFY PLATING CODE XX=
- 0: 0,25 µm Au
- 10: 0,25 µm Au

For Electrical, Mechanical & Environmental Data, See page 264
**SPRING-LOADED CONNECTORS**

**SERIES 858 • 4MM GRID RUGGED CONCAVE FACE TARGET CONNECTOR • SURFACE MOUNT AND THROUGH HOLE MOUNT**

- Rugged Target Connectors for use on 4mm grid, supplied in 2 - 6 position connectors
- Target Connectors provide an excellent gold-plated conductive mating surface for spring-loaded connectors. These series are offered with a concave face providing additional surface area for mating with our 858-22-00X-X0-XX1101 series spring-loaded connectors
- Target connectors use MM #1959-1 and #1969-1 pins. See page 223.5 for details
- Mounting tabs provide a means for secure attachment to the PCB and may be specified with or without threaded inserts
- High temp. thermoplastic insulators are suitable for wave and reflow soldering processes
- Series 858-10-00X-10-0X2000 connectors are designed for manual placement into 1.32±0.076 Ø plated through-holes in the circuit board prior to soldering
- Series 858-10-00X-30-0X2000 and 858-10-00X-30-6X2000 connectors are designed for manual placement onto 2.54 Ø minimum solder pads

**ORDERING INFORMATION**

**Series 858 (Through-Hole Mount)**

- **858-10-00X-10-0X2000**
  - Specify number of pins 2-6
  - No Threaded inserts = 0
  - (#4-40) Threaded inserts = 1

**Series 858 (Surface Mount)**

- **858-10-00X-30-0X2000**
  - Specify number of pins 2-6
  - No Threaded inserts = 0
  - (#4-40) Threaded inserts = 1

**Series 858 (Surface Mount with Alignment Pins)**

- **858-10-00X-30-6X2000**
  - Specify number of pins 2-6
  - No Threaded inserts = 0
  - (#4-40) Threaded inserts = 1

**RoHS-2 2011/65/EU**

**SPECIFY PLATING CODE XX=**

<table>
<thead>
<tr>
<th>XX=Plating Code</th>
<th>See Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin Plating</td>
<td>0.25 μm Au</td>
</tr>
</tbody>
</table>

For Electrical, Mechanical & Environmental Data, See page 264
SPRING-LOADED CONNECTORS

SERIES 868 • 4MM GRID RUGGED CONNECTORS • SOLDERCUP TERMINATION

- Rugged Modular contacts for use on 4mm grid, supplied in 2 - 6 position connectors
- Precision-machined piston / base and gold-plated components assure up to 1,000,000 cycle life durability. Pistons have a 1,14 mid. stroke and a 2,29 max. stroke
- Mounting tabs provide a means for secure attachment to PCB’s, cable assemblies or other housings and may be specified with or without threaded inserts.
- High temperature thermoplastic insulators are suitable for most automated and manual soldering processes
- Series 868-22-00X-00-0X101 connectors are ideal for use with Mill-Max 858 and 868 series SMT, through hole or wire termination target connectors
- Solder cup termination accommodates up to 16 AWG wire
- Series 868-22-00X-00-0X101 use 0868-0 spring-loaded pins. See page 23.1 for details

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Series 868 (Through-Hole Mount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of pins 2-6</td>
</tr>
<tr>
<td>868-22-00X-00-001101</td>
</tr>
<tr>
<td>No Threaded inserts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Series 868 (Through-Hole Mount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify number of pins 2-6</td>
</tr>
<tr>
<td>868-22-00X-00-011101</td>
</tr>
<tr>
<td>(#4-40) Threaded inserts</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0,51μm gold over 2,54μm nickel
- Spring: Stainless Steel 302 plated 0,25μm gold over nickel
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height: 35 grams
- Spring force @ mid stroke: 120 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Current rating: 9A @ 10° C Temp. rise above ambient (20°C)
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.

RoHS - 2 2011/65/EU
SERIES 868 • 4MM GRID RUGGED TARGET CONNECTORS
FLAT & CONCAVE FACE • SOLDERCUP TERMINATION

- Rugged Target Connectors for use on 4mm grid, supplied in 2 - 6 position connectors
- Target Connectors provide an excellent gold-plated conductive mating surface for spring-loaded connectors. These series are offered with flat or concave face, providing additional surface area, for mating with Mill-Max 858 and 868 series SMT, through hole or wire termination spring loaded connectors
- Mounting tabs provide a means for secure attachment to PCB’s, cable assemblies or other housings and may be specified with or without threaded inserts.
- High temperature thermoplastic insulators are suitable for most automated and manual soldering processes
- Solder cup termination accommodates up to 16 AWG wire
- Series 868-10-00X-00-0X100 use MM #1968-0 target pins & Series 868-10-00X-00-0X200 use #1968-1 target pins. See page 223.5 for details

ORDERING INFORMATION

Series 868 (Flat Face Through-Hole Mount)

868-10-00X-00-0X1000

Specify number of pins 2-6

No Threaded inserts = 0
(#4-40) Threaded inserts = 1

Series 868 (Concave Face Through-Hole Mount)

868-10-00X-00-0X2000

Specify number of pins 2-6

No Threaded inserts = 0
(#4-40) Threaded inserts = 1

RoHS - 2011/65/EU

XX=Plating Code
See Below

SPECIFY PLATING CODE XX=
10 µ

Pin Plating
0.25 µ Au

For Electrical, Mechanical & Environmental Data, See page 264
SPRING-LOADED CONNECTORS

SERIES 806 • REMOVABLE PICK & PLACE CAP, SPRING-LOADED PINS • SURFACE MOUNT

• Surface mount spring-loaded pins with removable pick & place cap are available in nine heights from 3.5 to 7.5 with a rated travel of either 0.5 or 0.7
• Spring pins used in this series are Mill-Max 0900-X and 0907-X (see page 23 for more details)
• The pick & place cap allows individual spring-loaded contacts to be packaged on tape and reel for automated assembly. The caps are easily removed after soldering leaving only the spring pin on the board.
• Pick & place cap material is high temperature thermoplastic suitable for most SMT soldering processes
• Supplied on 16 mm wide carrier tape, 330mm reels; packaging per EIA-481. See below for ordering information

ORDERING INFORMATION

Series 806 (Tape & Reel Packaged)

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Tape Depth (D)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3,5</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>4.57</td>
<td>6.4</td>
<td>780</td>
</tr>
<tr>
<td>2</td>
<td>3.94</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>4.57</td>
<td>6.4</td>
<td>780</td>
</tr>
<tr>
<td>3</td>
<td>4.5</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>4.57</td>
<td>6.4</td>
<td>780</td>
</tr>
<tr>
<td>4</td>
<td>5.0</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>4.57</td>
<td>6.4</td>
<td>780</td>
</tr>
<tr>
<td>10</td>
<td>5.51</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>5.59</td>
<td>7.24</td>
<td>750</td>
</tr>
<tr>
<td>11</td>
<td>5.99</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>5.59</td>
<td>7.24</td>
<td>750</td>
</tr>
<tr>
<td>12</td>
<td>6.48</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>5.59</td>
<td>9.17</td>
<td>550</td>
</tr>
<tr>
<td>13</td>
<td>6.99</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>5.59</td>
<td>9.17</td>
<td>550</td>
</tr>
<tr>
<td>14</td>
<td>7.49</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>5.59</td>
<td>9.17</td>
<td>550</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
- Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
- Spring (Contact style 1-14): Beryllium copper-plated 0.25μm gold
- Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
- Spring force @ initial height (A) (Contact style 1-14): 25 grams
- Spring force @ mid stroke (B/2) (Contact style 1-14): 60 grams
- Durability: Up to 1,000,000 cycles

Electrical:
- Current rating: 2A (continuous), 3A (peak) per contact
- Contact resistance: 20mΩ max.
- Insulation resistance: 10,000MΩ min.
Through hole mount spring-loaded pins with removable pick & place cap are avaiable in four heights from 3.5 to 5.0 with a rated travel of either 0.5 or 0.7

Spring pins used in this series are Mill-Max 0906-X (see page 25 for more details)

The pick & place cap allows individual spring-loaded contacts to be packaged on tape and reel for automated assembly. The caps are easily removed after soldering leaving only the spring pin on the board

Pick & place cap material is high temperature thermoplastic suitable for most SMT soldering processes

Supplied on 24 mm wide carrier tape, 330mm reels; packaging per EIA-481. See below for ordering information

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Initial Height (A)</th>
<th>Rated Travel</th>
<th>Full Stroke Range (B)</th>
<th>Sleeve Height (C)</th>
<th>Tape Depth (D)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.5</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>4.57</td>
<td>8.05</td>
<td>640</td>
</tr>
<tr>
<td>2</td>
<td>3.94</td>
<td>0.5</td>
<td>0.76-1.0</td>
<td>4.57</td>
<td>8.05</td>
<td>640</td>
</tr>
<tr>
<td>3</td>
<td>4.5</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>4.57</td>
<td>8.05</td>
<td>640</td>
</tr>
<tr>
<td>4</td>
<td>5.0</td>
<td>0.7</td>
<td>1.27-1.4</td>
<td>4.57</td>
<td>8.05</td>
<td>640</td>
</tr>
</tbody>
</table>

Technical Specifications

Materials:
Contact piston & base: Machined copper alloy plated 0.51μm gold over 2.54μm nickel
Spring (Contact style 1-4): Beryllium copper-plated 0.25μm gold
Insulator: High temperature thermoplastic, rated UL94 V-0

Mechanical:
Spring force @ initial height (A) (Contact style 1-4): 25 grams
Spring force @ mid stroke (B/2) (Contact style 1-4): 60 grams
Durability: Up to 1,000,000 cycles

Electrical:
Current rating: 2A (continuous), 3A (peak) per contact
Contact resistance: 20mΩ max.
Insulation resistance: 10,000MΩ min.
Series 319 and 330 Spring Target Connectors, supplied in single row strips. Available in through-hole and wire termination configurations.

Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our standard 1.07 dia. spring pin plungers.

Target connectors use MM #1938, #1940, #1942 and #3024 pins. See page 218 for details.

Insulators are high temperature thermoplastic.

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>FIG. 1</th>
<th>Series 319...001 Standard Solder Tails</th>
</tr>
</thead>
<tbody>
<tr>
<td>319-10-1____00-001000</td>
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<tr>
<td>Specify number of pins 01-64</td>
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<table>
<thead>
<tr>
<th>FIG. 2</th>
<th>Series 319...002 Long Solder Tails</th>
</tr>
</thead>
<tbody>
<tr>
<td>319-10-1____00-002000</td>
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</tr>
<tr>
<td>Specify number of pins 01-64</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FIG. 3</th>
<th>Series 319...005 Elevated with Solder Tails</th>
</tr>
</thead>
<tbody>
<tr>
<td>319-10-1____00-005000</td>
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</tr>
<tr>
<td>Specify number of pins 01-64</td>
<td></td>
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<table>
<thead>
<tr>
<th>FIG. 4</th>
<th>Series 330...240 Solder Cups</th>
</tr>
</thead>
<tbody>
<tr>
<td>330-10-1____00-240000</td>
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<tr>
<td>Specify number of pins 01-64</td>
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</tr>
</tbody>
</table>

RoHS - 2 2011/65/EU

XX=Plating Code See Below

For Electrical, Mechanical & Environmental Data, See page 264

**SPECIFY PLATING CODE XX**

| Pin Plating | 0,25μm Au |

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com
SERIES 319, 399 • 2,54 GRID TARGET CONNECTORS
FOR SPRING-LOADED ASSEMBLIES • SINGLE ROW STRIPS

- Series 319 and 399 Spring Target Connectors, supplied in single row strips. Available in SMT and right angle through-hole termination configurations.
- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our standard 1,07 dia. spring pin plungers.
- Target connectors use MM #1940, #1941/1942, #1953 and #1954 pins. See pages 218 & 223.3 for details.
- Insulators are high temperature thermoplastic.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG.</th>
<th>Series</th>
<th>Description</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
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RoHS - 2 2011/65/EU
XX=Plating Code See Below
Pin Plating 0,25μm Au
SERIES 319, 399 • 2.54 GRID CONCAVE FACE TARGET CONNECTORS
FOR SPRING-LOADED ASSEMBLIES • SINGLE ROW STRIPS

- Series 319 and 399 Spring Target Connectors, supplied in single row strips. Available in SMT and right angle through-hole termination configurations
- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a concave face for making contact with our standard 1.07 dia. spring pin plungers
- Target connectors use MM #1948, #1955, #1957 and #1960 pins. See pages 223.1, 223.2 and 223.3 for details
- Insulators are high temperature thermoplastic

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG. 1</th>
<th>Series 319...006</th>
<th>Standard Solder Tails</th>
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RoHS - 2 2011/65/EU
XX=Plating Code See Below
For Electrical, Mechanical & Environmental Data, See page 264

SPECIFY PLATING CODE XX= 10 μ
Pin Plating 0.25μm Au
SERIES 419, 430 • 2.54 GRID TARGET CONNECTORS
FOR SPRING-LOADED ASSEMBLIES • DOUBLE ROW STRIPS

- Series 419 and 430 Spring Target Connectors, supplied in double row strips. Available in through-hole and wire termination configurations.
- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our standard 1.07 dia. spring pin plungers.
- Target connectors use MM #1938, #1940, #1942 and #3024 pins. See page 218 for details.
- Insulators are high temperature thermoplastic.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG.</th>
<th>Series 419...001 Standard Solder Tails</th>
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<td>FIG. 2</td>
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<td>Specify number of pins</td>
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<td>FIG. 3</td>
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RoHS - 2011/65/EU

SPECIFY PLATING CODE XX=

- Pin Plating 0.25μm Au

XX=Plating Code See Below

For Electrical, Mechanical & Environmental Data, See page 264
- Series 419 and 499 Spring Target Connectors, supplied in double row strips. Available in SMT and right angle through-hole termination configurations.
- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our standard 1.07 dia. spring pin plungers.
- Target connectors use MM #1940, #1941/1942, #1953 and #1954 pins. See pages 218 & 223.3 for details.
- Insulators are high temperature thermoplastic.

### ORDERING INFORMATION

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<thead>
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<th>Series</th>
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<td>419-10-2___-30-042000 06-72</td>
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<td>419...041</td>
<td>Surface Mount</td>
<td>419-10-2___-30-041000 04-72</td>
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<td>419...054</td>
<td>Low Profile Surface Mount</td>
<td>419-10-2___-30-054000 04-72</td>
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<td>499...008</td>
<td>Right Angle Solder Tails</td>
<td>499-10-2___-10-008000 02-64</td>
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**RoHS-2 2011/65/EU**

XX=Plating Code See Below

For Electrical, Mechanical & Environmental Data, See page 264.

**SPECIFY PLATING CODE XX=**

- 10 0,25μm Au
SPRING-LOADED CONNECTORS

SERIES 419, 499 • 2.54 GRID CONCAVE FACE TARGET CONNECTORS
FOR SPRING-LOADED ASSEMBLIES • DOUBLE ROW STRIPS

• Series 419 and 499 Spring Target Connectors, supplied in double row strips. Available in SMT and right angle through-hole termination configurations.

• Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a concave face for making contact with our standard 1.07 dia. spring pin plungers.

• Target connectors use MM #1947, #1948, #1955 and #1958/1960 pins. See pages 223.1, 223.2 and 223.3 for details.

• Insulators are high temperature thermoplastic.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>SERIES 419...006</th>
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<tr>
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<th>SERIES 419...055</th>
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SPECIFY PLATING CODE XX=

Pin Plating

0.25μm Au

RoHS-2 2011/65/EU

XX=Plating Code
See Below

For Electrical, Mechanical & Environmental Data, See page 264

Coplanarity 0.13. For Pin counts >20 positions, consult Technical Support.

FIG. 1

FIG. 2

FIG. 3

FIG. 4

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com
SERIES 856 • 1.27 GRID FLAT & CONCAVE FACE TARGET CONNECTORS FOR SPRING-LOADED ASSEMBLIES • SINGLE ROW STRIPS

- Series 856 Spring Target Connectors, supplied in single row strips
- Spring Target Connectors are offered with a flat or concave surface for making contact with our standard 0.48 dia. spring pin plungers. The target connectors provide an excellent gold-plated conductive path back to the board-mounted spring pin connector
- Target connectors use MM #1831-1 and #1931-1 pins. See page 223.2 for details
- Insulators are high temperature thermoplastic

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG. 1</th>
<th>Series 856...20-001</th>
<th>Flat face / Right Angle</th>
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<th>Series 856...20-002</th>
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<tr>
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<td>Specify number of pins 01-20</td>
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RoHS - 2011/65/EU

SPECIFY PLATING CODE XX=

Pin Plating 0.25μm Au

Coplanarity 0.13. For Pin counts >20 positions, consult Technical Support.
SPRING-LOADED CONNECTORS

SERIES 856, 857 • 1,27 GRID CONCAVE FACE TARGET CONNECTORS FOR SPRING-LOADED ASSEMBLIES • SINGLE AND DOUBLE ROW STRIPS

- Series 856 and 857 Target Connectors, SMT & through-hole, supplied in single and double row strips.
- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a concave face for making contact with our standard 0.48 dia. spring pin plungers.
- Target connectors use MM #1934 (through-hole) and #1936 (surface mount) pins. See page 223.2 for details.
- Insulators are high temperature thermoplastic.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG. 1</th>
<th>Series 856...10-002</th>
<th>Concave face / Solder Tails</th>
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<tr>
<td>FIG. 2</td>
<td>Series 856...30-002</td>
<td>Concave face / Surface Mount</td>
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<tr>
<td>FIG. 3</td>
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RoHS - 2 2011/65/EU

SPECIFY PLATING CODE XX=

Pin Plating 10 μ" Au

Coplanarity 0.13. For Pin counts >20 positions, consult Technical Support.

Coplanarity 0.13. For Pin counts >40 positions, consult Technical Support.

For Electrical, Mechanical & Environmental Data, See page 264
Series 856 and 857 Target Connectors, SMT & through-hole, supplied in single and double row strips.

- Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. These series are offered with a flat face for making contact with our standard 0,48 dia. spring pin plungers.
- Target connectors use MM #1933 (through-hole) and #1935 (surface mount) pins. See page 223.2 for details.
- Insulators are high temperature thermoplastic.

ORDERING INFORMATION

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<thead>
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<th>FIG. 1</th>
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SPECIFY PLATING CODE XX= 10
Pin Plating 0,25μm Au

RoHS - 2 2011/65/EU
XX=Plating Code See Below
For Electrical, Mechanical & Environmental Data, See page 264
• Series 830 2mm Spring Target Connectors, supplied in single row strips
• Target connectors provide an excellent gold-plated conductive path back to the board-mounted spring pin connector. Available in both through-hole and SMT terminations with the choice of either flat or concave face contact surfaces. Concave face targets provide additional surface area for mating with our standard 0.81 diameter plungers
• Target connectors use MM #1949, #1950, #1951, and #1952 pins. See page 223.1 for details
• Insulators are high temperature thermoplastic

ORDERING INFORMATION

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<tr>
<th>FIG. 1</th>
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Coplanarity 0.13. For Pin counts >10 positions, consult Technical Support.

RoHS-2 2011/65/EU

SPECIFY PLATING CODE XX=

Pin Plating

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For Electrical, Mechanical & Environmental Data, See page 264
SPRING-LOADED CONNECTORS

SERIES 832 • 2mm GRID FLAT & CONCAVE FACE TARGET CONNECTORS  
FOR SPRING-LOADED ASSEMBLIES • DOUBLE ROW STRIPS

• Series 832 2mm Spring Target Connectors, supplied in double row strips
• Target connectors provide an excellent gold-plated conductive path back to the board-mounted spring pin connector. Available in both through-hole and SMT terminations with the choice of either flat or concave face contact surfaces. Concave face targets provide additional surface area for mating with our standard 0.81 diameter plungers
• Target connectors use MM #1949, #1950, #1951, and #1952 pins. See page 223.1 for details
• Insulators are high temperature thermoplastic

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>FIG. 1</th>
<th>Series 832...003</th>
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<td>04-20</td>
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<td>832-10-0_ _-30-003XXX</td>
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<td>04-20</td>
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Coplanarity 0.13. For Pin counts >20 positions, consult Technical Support.

SPECIFY PLATING CODE XX=  
Pin Plating: 0.25μm Au

For Electrical, Mechanical & Environmental Data, See page 264
• The 1578-X-57-15-00-00-03-0 Surface mount disc is 1.98 in diameter and available in four heights from 0.64 to 1.4 +/-0.051 tall.

Employing our precision machining expertise we are able to achieve flat surfaces on both sides of the disc with virtually no burrs. The flat surfaces are ideal for surface mount soldering and as the conductive mating surface for spring loaded pins and connectors as well as test probes. The discs are typically placed on solder pasted PCB pads and then subjected to reflow soldering. Once soldered the terminals are ready to be used as reliable, durable contact points.

• The 1578-X’s are packaged on tape & reel - 16 mm wide x 8 mm pitch, making them simple to integrate into existing pick & place equipment and assembly processes. The tape packaging is per EIA-481-D.

• Custom sizes are quickly and easily achievable via Mill-Max’s high speed precision machining processes. You can contact our technical support team to discuss your particular application and requirements.

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Target Disc Height (A)</th>
<th>Tape Pocket Depth (B)</th>
<th>Tape Pocket Opening (C)</th>
<th>Quantity per Reel</th>
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**SPECIFICATIONS:**

Pin Material: Brass Alloy 385 or 360, 1/2 Hard

Dimensions: Millimeters

Tolerances On:
- Lengths: ± 0.051
- Diameters: ± 0.025
- Angles: ± 2 °

**RoHS-2 2011/65/EU**
• The 1559-1-57-15-00-00-03-0 Surface mount disc is 1.5 in diameter. Employing our precision machining expertise we are able to achieve flat surfaces on both sides of the disc with virtually no burrs. The flat surfaces are ideal for surface mount soldering and as the conductive mating surface for spring loaded pins and connectors as well as test probes. The discs are typically placed on solder pasted PCB pads and then subjected to reflow soldering. Once soldered the terminals are ready to be used as reliable, durable contact points.

• The 1559-1 are packaged on tape & reel - 16 mm wide x 8 mm pitch, making them simple to integrate into existing pick & place equipment and assembly processes. The tape packaging is per EIA-481-D

• Custom sizes are quickly and easily achievable via Mill-Max’s high speed precision machining processes. You can contact our technical support team to discuss your particular application and requirements.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Series 1559 (Tape &amp; Reel Packaged)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1559-X-57-15-00-00-03-0</td>
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<tr>
<td>Specify contact style (1)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Contact Style</th>
<th>Target Disc Height (A)</th>
<th>Tape Pocket Depth (B)</th>
<th>Tape Pocket Opening (C)</th>
<th>Quantity per Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.80</td>
<td>1.04</td>
<td>2.64</td>
<td>6,000</td>
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</table>

XX=Plating Code
See Below

For Electrical, Mechanical & Environmental Data, See page 264

SPECIFY PLATING CODE XX=

Pin Plating

<table>
<thead>
<tr>
<th>Pin Material:</th>
<th>Brass Alloy 385 or 360, 1/2 Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions:</td>
<td>Millimeters</td>
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<tr>
<td>Tolerances On:</td>
<td>Lengths: ± 0.051</td>
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<tr>
<td></td>
<td>Diameters: ± 0.025</td>
</tr>
<tr>
<td></td>
<td>Angles: ± 2°</td>
</tr>
</tbody>
</table>

RoHS-2 2011/65/EU
• Series 319 HSMT Spring Target Connectors, supplied in single row strips

• Target Connectors provide an excellent gold-plated conductive mating surface for spring loaded connectors. This series is offered with a flat face for making contact with our standard 1.07 dia. spring pin plungers.

• These target connectors provide a low profile, horizontal surface mount connection to the PCB and are designed to mate with standard 2.54 pitch spring loaded connectors. They are ideal for daisy chaining P.C.B’s when mated with SLC 810-22-1XX-40-005191 or for mating boards in a perpendicular orientation.

• The 319 series is packaged on tape & reel - 16, 24, 32 or 44 mm wide x 16 mm pitch, making them simple to integrate into existing pick & place equipment and assembly processes. The tape packaging is per EIA-481-D.

ORDERING INFORMATION

### Series 319 (Tape & Reel Packaged)

<table>
<thead>
<tr>
<th>Number of Pins</th>
<th>Tape Width (A)</th>
<th>Quantity per Reel</th>
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<tbody>
<tr>
<td>2</td>
<td>16mm</td>
<td>1,450</td>
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<tr>
<td>3</td>
<td>16mm</td>
<td>1,450</td>
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<tr>
<td>4</td>
<td>24mm</td>
<td>1,450</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>24mm</td>
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<tr>
<td>7</td>
<td>32mm</td>
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<tr>
<td>8</td>
<td>32mm</td>
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<tr>
<td>9</td>
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<td>1,450</td>
</tr>
<tr>
<td>10</td>
<td>44mm</td>
<td>1,450</td>
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</tbody>
</table>

**Specify number of pins**: 02-10

**Specify Plating Code XX**: See Below

**Pin Plating**: 0.25µm Au

**Technical Specifications**

**Materials:**
- Pin Material: Brass Alloy 385 or 360, 1/2 Hard
- Pin Finish: 0.25µm Gold over Nickel
- Insulator: High temperature Nylon 46, rated UL94 V-0

**Electrical:**
- Insulation resistance: 10,000MΩ min.
- Dielectric strength: 700Vrms min.