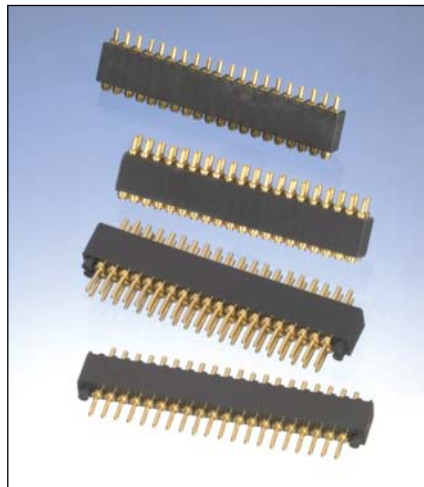


# MAX solutions

## Mill-Max Series 854 Single Row and 855 Double Row .050" Pitch Surface Mount and Through-Hole Spring-Loaded Connectors and Mating Target Connectors

Mill-Max has developed high density, .050" pitch through-hole and surface mount spring-loaded connectors (SLC) available in single and double-row strip packaging.

Each precision-machined spring pin component is plated 20u" hard gold and assembled in a high temperature thermoplastic insulator suitable for wave and reflow soldering processes. Every Mill-Max SLC is RoHS compliant.



Series 854-22-0XX-10-001101 and 855-22-0XX-10-001101 through-hole insulators feature molded standoffs to improve soldering and cleaning beneath the connector. Tail diameters of .016" require minimal diameter plated holes for connector mounting, maximizing signal routing between pins.

Series 854-22-0XX-30-001101 and 855-22-0XX-30-001101 surface mount spring connectors are low profile, standing less than .230" tall when engaged mid-stroke (.0275"). Each SMT spring pin features a base geometry of .030" round by .010" tall to maximize soldering surface area and promote solder joint fillet.

(5/10 -- 606)

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## Applications

Mill-Max Spring-Loaded Contacts are button type contacts interconnecting two parallel conductive surfaces inside an electronic device or instrument. The stroking movement of the spring pin piston accommodates uneven, non-parallel conditions due to mechanical tolerances in the assembly.

Mill-Max SLC's are often used as the internal battery connection in portable instruments, or as the external battery connection for charging these instruments (docking stations.)

Another popular application is stacking printed circuit boards in an assembly. Spring pin connectors are excellent for mezzanine-tiered board modules that require blind mate assembly.

Mill-Max also offers **through-hole and surface mount .050" pitch Target Connectors** to provide a gold-plated, flat and conductive mating surface. Mill-Max Target Connector Pins are precision-machined and assembled into thermoplastic insulators. Mill-Max Target Connectors are RoHS compliant and suitable for reflow soldering.

### **Mill-Max Spring Pin Connector and its Mating Target Connector**

P854-22-020-10-001101	SIP (1x20)	SLC	Through-hole	2 to 20
P856-10-020-10-051000	SIP (1x20)	Target	Through-hole	2 to 20
P854-22-020-30-001101	SIP (1x20)	SLC	Surface Mount	2 to 20
P856-10-020-30-051000	SIP (1x20)	Target	Surface Mount	2 to 20
P855-22-040-10-001101	STRIP (2x20)	SLC	Through-hole	4 to 40
P857-10-040-10-051000	STRIP (2x20)	Target	Through-hole	4 to 40
P855-22-040-30-001101	STRIP (2x20)	SLC	Surface Mount	4 to 40
P857-10-040-30-051000	STRIP (2x20)	Target	Surface Mount	4 to 40

#### **Mechanical for Spring Pins:**

Spring force @ initial height: 25 grams

Spring force @ mid stroke (.0275"): 60 grams

For best mechanical result and longest product life, please design to spring mid-stroke parameter of .0275."

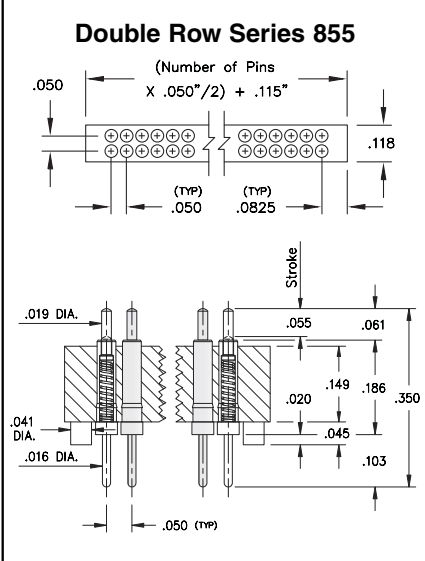
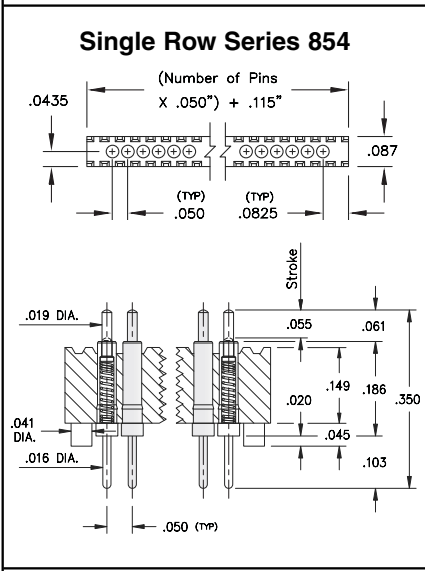
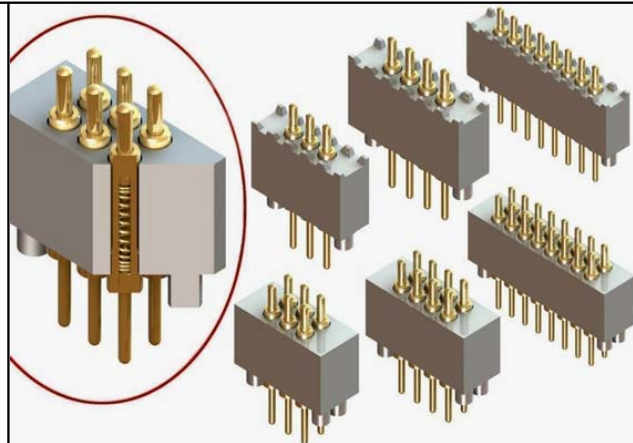
**For more information on these parts, please visit: [www.mill-max.com/PR606](http://www.mill-max.com/PR606).**



**SPRING-LOADED CONNECTORS**  
**.050" Grid Through Hole Mount**  
**Single and Double Row Strips**

Series 854...10-001101  
 855...10-001101

- Modular contacts for use on .050" grid, supplied in single and double row contact strips.
- Precision-machined piston / base and gold plated components assure a 1,000,000 min. cycle life.
- Pistons have a .0275" mid stroke & .055" 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 into  $\varnothing .023 \pm .003$ " plated-through-holes in the circuit board.



**Ordering Information**

<b>Series 854</b>	<b>Single Row Through Hole Mount</b>
854-22-0__-10-001101	
Specify # of pins	→ 02-20
<b>Series 855</b>	<b>Double Row Through Hole Mount</b>
855-22-0__-10-001101	
Specify # of pins	→ 04-40

*For Electrical,  
Mechanical & Environmental  
Data, See pg. 4.1*

*For RoHS compliance  
select ◇ plating code.*

**Technical Specifications**

**Materials:**  
 Contact piston & Base: Machined copper alloy plated 20μ" gold over 100μ" nickel.  
 Spring: Beryllium copper plated 10μ" gold  
 Insulator: High temp. thermoplastic rated UL94 V-0

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

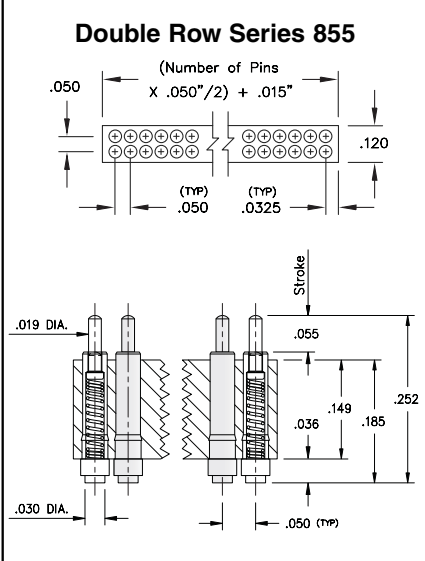
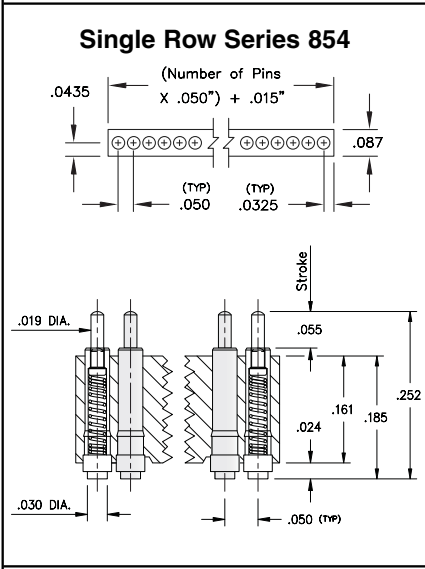
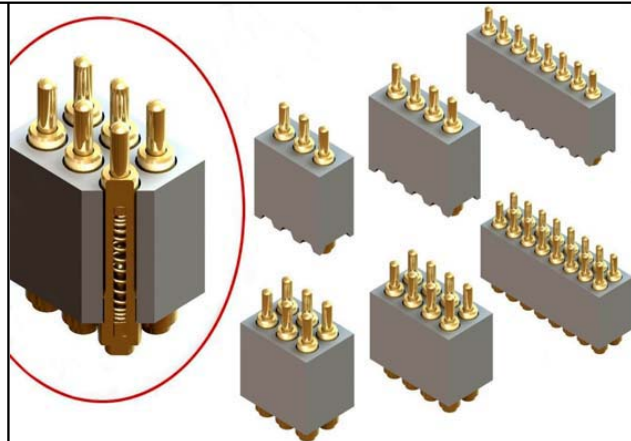
**Electrical:**  
 Voltage rating: 100Vrms/150Vdc  
 Current rating: 2A (continuous), 3A (peak) per contact  
 Contact resistance: 20mΩ max.  
 Insulation resistance: 10,000MΩ min.  
 Dielectric strength: 700Vrms min.  
 Capacitance: 1pF max.



**SPRING-LOADED CONNECTORS**  
**.050" Grid Surface Mount, High Density**  
**Single and Double Row Strips**

Series 854...30-001101  
 855...30-001101

- Modular contacts for use on .050" grid, supplied in single and double row contact strips.
- Precision-machined piston / base and gold plated components assure a 1,000,000 min. cycle life.
- Pistons have a .0275" mid stroke & .055" 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 .040" Ø solder pads.



**Ordering Information**

<b>Series 854</b>	<b>Single Row Surface Mount</b>
854-22-0__-30-001101	
Specify # of pins	→ 02-20
<b>Series 855</b>	<b>Double Row Surface Mount</b>
855-22-0__-30-001101	
Specify # of pins	→ 04-40

*For Electrical,  
Mechanical & Environmental  
Data, See pg. 4.1*

*For RoHS compliance  
select ◇ plating code.*

**Technical Specifications**

**Materials:**  
 Contact piston & Base: Machined copper alloy plated 20µ" gold over 100µ" nickel.  
 Spring: Beryllium copper plated 10µ" gold  
 Insulator: High temp. thermoplastic rated UL94 V-0

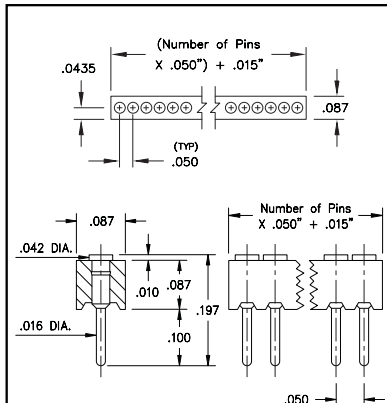
**Mechanical:**  
 Spring force @ initial height (A): 25 grams  
 Spring force @ mid stroke (B/2): 60 grams  
 Durability: 1,000,000 cycles min.

**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.



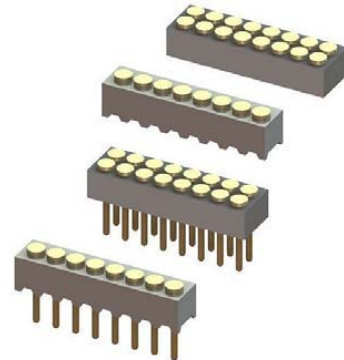
**SPRING-LOADED CONNECTORS**  
**.050" Grid Target Connectors for Spring-Loaded Assemblies**  
**Single and Double Row**

Series 856, 857

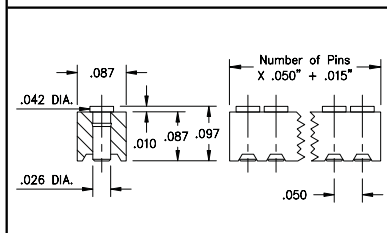


**Fig. 1**

- Series 856, 857 single and double row strips may be cut to any length.
- Spring Target connectors present a large flat surface for making tangent connections to our standard .019" 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 #1933 and #1935 pins. See page 180 for details.
- Insulators are high temp. thermoplastic.



**Ordering Information**



**Fig. 2**

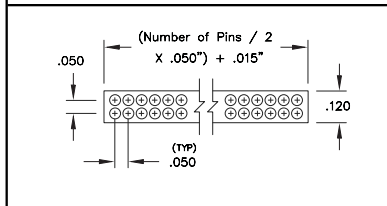
Coplanarity .005". For Pin Counts >20 positions consult Technical Support.

**Fig. 1**

**Series 856...051      Standard Solder Tails**

856-10-0\_ \_-10-051000

Specify # of pins      →      01-20



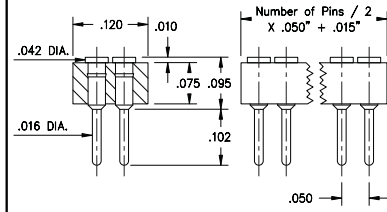
**Fig. 3**

**Fig. 2**

**Series 856...051      Surface Mount**

856-10-0\_ \_-30-051000

Specify # of pins      →      02-20



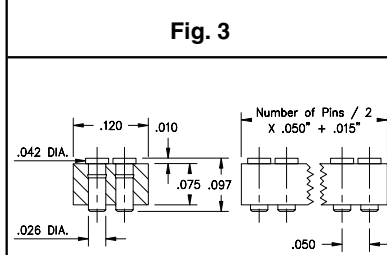
**Fig. 4**

**Fig. 3**

**Series 857...051      Standard Solder Tails**

857-10-0\_ \_-10-051000

Specify # of pins      →      04-40



Coplanarity .005". For Pin Counts >40 positions consult Technical Support.

**Fig. 4**

**Series 857...051      Surface Mount**

857-10-0\_ \_-30-051000

Specify # of pins      →      04-40

*For Electrical, Mechanical & Environmental Data, See pg. 4*



PLATING CODE =	<b>10</b>		
Pin Plating	10 μ" Au		