

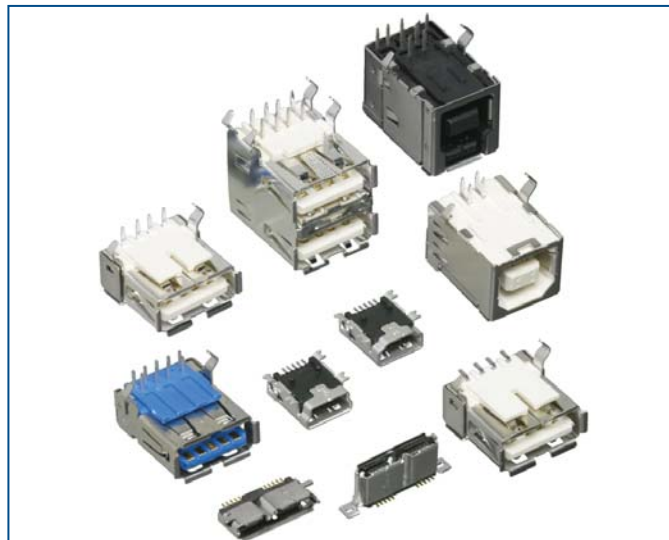
MAXIMUM SOLUTIONS

Mill-Max Offers New SuperSpeed USB 3.0 Connectors

Mill-Max has expanded its USB family to include four new USB 3.0 connectors. USB 3.0, SuperSpeed USB, provides a 10 X faster data transfer rate over Hi-Speed USB with a 5 Gbps signaling rate. SuperSpeed USB is a Sync-N-Go technology that minimizes user wait time and provides optimized power efficiency. Mill-Max is offering both standard size and micro USB 3.0 connectors. USB 3.0 is fully backwards compatible with USB 2.0.

The standard style is available in Type A and Type B configurations for through-hole mounting. The connectors are fully shielded, have plug retention tabs and kinked locating legs for secure PCB retention. Both connectors have 9 pins. P/N [896-46-009-90-300000](#) is the Type A and is packaged 100 parts per tray. P/N [897-46-009-90-300000](#) is the type B and is packaged 80 parts per tray.

Micro USB 3.0 connectors offer more options when smaller solutions are necessary. They are smaller and lighter than existing USB connectors for portable and handheld devices. They feature 10 pins and 0.66mm pitch (.026"), thereby, reducing the board space required for mounting. The [897-10-010-00-300002](#) is a vertical mount version and is packaged on tape & reel: 900 parts per reel. The [897-10-010-40-300002](#) is the horizontal surface mount option and is packaged 1,500 parts per reel.



Our standard USB and 2.0 mini USB features are as follows:

Standard USB Features

- USB receptacles for through-hole & SMT.
- Plug retention tabs.
- Kinked locating legs for secure PCB retention.
- Fully compatible with USB 1.0 & 2.0 specifications.
- Passes 16MHz Signal Attenuation per ASTM-D-4566.
- Packaged in trays, 150 pieces per tray.

Mini USB Features

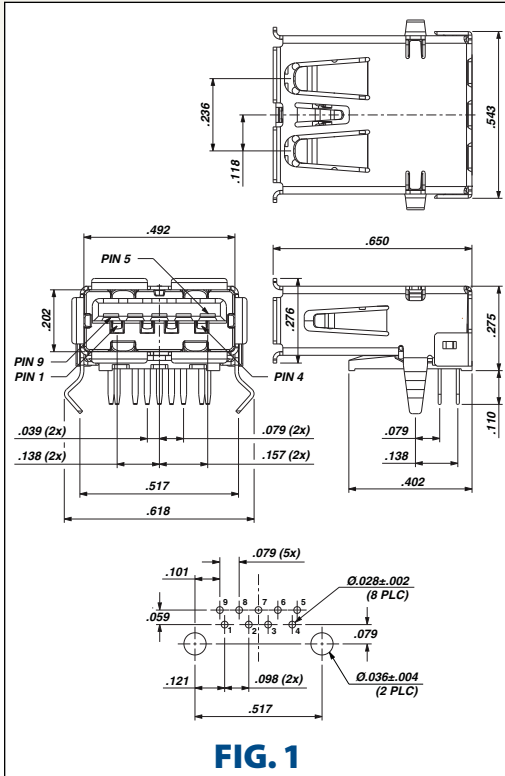
- Mini USB receptacles for surface mount.
- 5 Pin (one ID Pin), 0.8mm pitch, mini USB connector.
- Reduced mounting space.
- Fully compliant with current USB 2.0 specifications.
- Smaller and lighter than existing USB connectors for portable and handheld devices.
- Packaged on Tape & Reel -- 700 parts per reel.

For more information, visit www.mill-max.com/PR631

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, Oyster Bay, NY 11771
516-922-6000 • Fax: 516-922-9253 • www.mill-max.com



SERIES 896, 897 • UNIVERSAL SERIAL BUS 3.0 • SOCKETS



- USB 3.0 receptacles for through-hole mount
- Plug retention tabs
- Kinked locating legs for secure PCB retention
- Fully Shielded
- Fully backwards compatible with USB 2.0
- 10X Faster than USB 2.0 and provides optimized power efficiency
- Packaged in trays:
896-46-009-90-300000 - 100 pieces per tray
897-46-009-90-300000 - 80 pieces per tray



ORDERING INFORMATION

FIG. 1	USB 3.0 Type A Receptacle, Single, Through Hole
	896-46-009-90-300000
FIG. 2	USB 3.0 Type B Receptacle, Single, Through Hole
	897-46-009-90-300000

Technical Specifications

Materials:

Terminals: Copper Alloy, Tin Plated
 Contacts: Copper Alloy, Gold Flash over Pd-Ni
 Casing and Shield: Stainless Steel
 Insulator material: High temp. thermoplastic rated UL94V-0



Ratings:

Voltage: 30VAC (rms)
 All housing materials rated for "lead-free" soldering up to 260° C

Electrical:

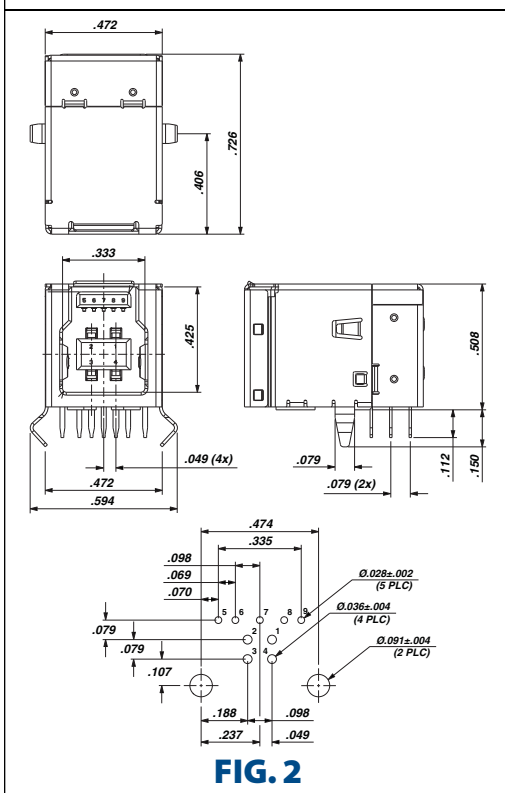
Contact resistance: 30mΩ max. for power and ground pins
 50mΩ max. for all others
 Insulation resistance: 100MΩ min.
 Dielectric withstanding voltage: 100VAC at sea level
 Capacitance: 2pF max.

Mechanical:

Random vibration: No discontinuity >1μs per EIA 364-28, cond. VII, letter D
 Physical shock: No discontinuity >1μs per EIA 364-27, condition H
 Durability: 5000 cycles min. per EIA 364-09
 Mating force: 35 Newtons max. per EIA 364-13
 Unmating force: Initial - 10 Newtons min. per EIA 364-13
 After test - 8 Newtons min. per EIA 364-13

Environmental:

Thermal shock per EIA 364-32, condition I
 Humidity per EIA 364-31
 Temperature life per EIA 364-17, method A
 Solderability per EIA 364-52, category 2



SERIES 896, 897 • UNIVERSAL SERIAL BUS • SOCKETS

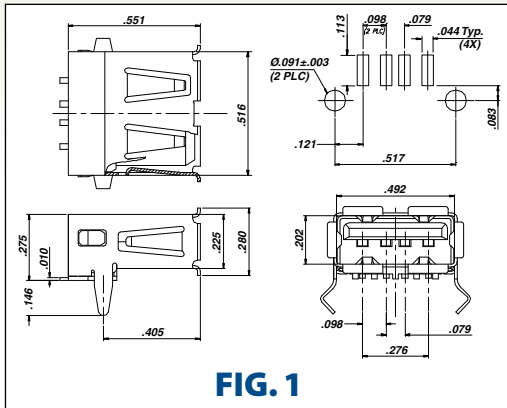


FIG. 1

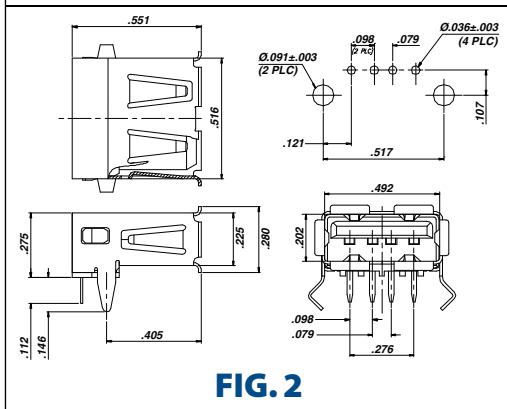


FIG. 2

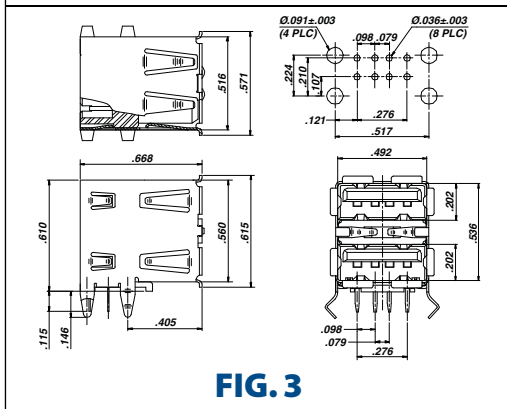


FIG. 3

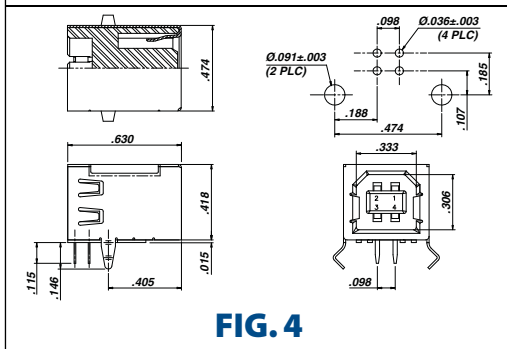


FIG. 4

- USB receptacles for through-hole and surface mount
- Plug retention tabs
- Kinked locating legs for secure PCB retention
- Fully Shielded
- Fully compatible with USB 1.0 and 2.0 specifications
- Passes 16MHz Signal Attenuation per ASTM-D-4566
- Packaged in trays, 150 pieces per tray



ORDERING INFORMATION

FIG. 1	Type A Receptacle, Single, Surface Mount
	896-43-004-00-000000
FIG. 2	Type A Receptacle, Single, Through Hole
	896-43-004-90-000000
FIG. 3	Type A Receptacle, Double, Through Hole
	896-43-008-90-000000
FIG. 4	Type B Receptacle, Single, Through Hole
	897-43-004-90-000000

Technical Specifications

Materials:

Terminals: Copper Alloy, Tin Plated
 Contacts: Copper Alloy, 30 μ" Gold Plated
 Casing and Shield: Stainless Steel
 Insulator material: High temp. thermoplastic rated UL94V-0

Ratings:

Voltage: 30VAC (rms)
 Current: 1A max. per contact for 30°C temperature rise
 All housing materials rated for "lead-free" soldering up to 260° C

Electrical:

Contact resistance: 30mΩ max.
 Insulation resistance: 1000MΩ min.
 Dielectric withstanding voltage: 750VAC at sea level
 Capacitance: 2pF max.

Mechanical:

Random vibration: No discontinuity >1μs per EIA 364-28, cond. V, letter A
 Physical shock: No discontinuity >1μs per EIA 364-27, condition H
 Durability: 1500 cycles min. per EIA 364-09
 Mating force: 35 Newtons max. per EIA 364-13
 Unmating force: 10 Newtons min. per EIA 364-13

Environmental:

Thermal shock per EIA 364-32, condition I
 Humidity per EIA 364-31, method II, condition A
 Temperature life per EIA 364-17, condition 3, method A

SERIES 897 • UNIVERSAL SERIAL BUS 3.0 MICRO-B • SURFACE MOUNT SOCKETS

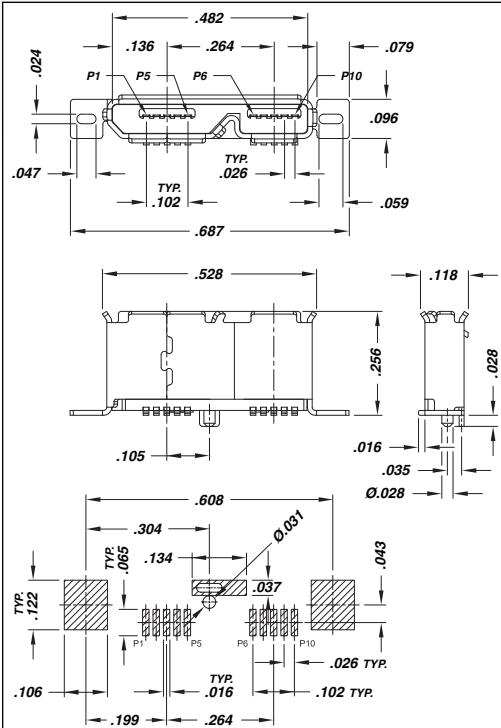


FIG. 1

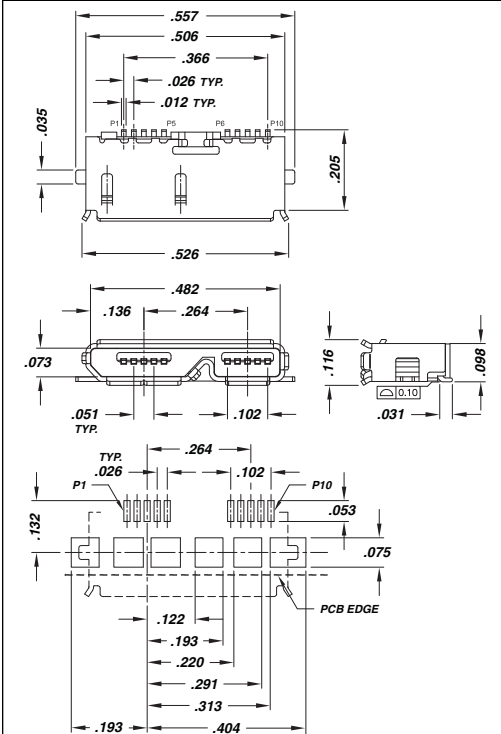


FIG. 2

- USB 3.0 Micro-B receptacles for surface mount
- Reduced mounting space
- Fully Shielded
- Fully backwards compatible with USB 2.0
- 10X Faster than USB 2.0 and provides optimized power efficiency
- Smaller and lighter than existing USB connectors for portable & handheld devices
- Packaged on Tape and Reel:
897-10-010-00-300002 - 900 pieces per reel
897-10-010-40-300002 - 1,500 pieces per reel



ORDERING INFORMATION

FIG. 1	Mini Type B Receptacle, Single, Vertical Surface Mount
	897-10-010-00-300002
FIG. 2	Mini Type B Receptacle, Single, Surface Mount
	897-10-010-40-300002

Technical Specifications

Materials:

Terminals: Copper Alloy, Gold Flash over Ni
Contacts: Copper Alloy, 15 μ" Gold Plated over Ni
Shell material: Stainless Steel, Nickel plated
Insulator material: High temp. LCP thermoplastic rated UL94V-0



Ratings:

Voltage: 30VAC (rms)
Current: 1.5A (Pin 1 and 5), .25A (other pins)
All housing materials rated for "lead-free" soldering up to 260° C

Electrical:

Contact resistance: 30mΩ max. (Pin 1 and 5)
50mΩ max. (other pins)
Insulation resistance: 100MΩ min.
Dielectric withstanding voltage: 100VAC for 1 minute at sea level

Mechanical:

Random vibration: No discontinuity >1μs per EIA 364-28, cond. V, letter A
Durability: 10,000 cycles max. per EIA 364-09
Mating force: 35 Newtons max. per EIA 364-13
Unmating force: Initial - 10 Newtons min. per EIA 364-13
After test - 8 Newtons min. per EIA 364-13

Environmental:

Operating Temperature Range: -40°C to +85°C
Humidity per EIA 364-31, method II, condition A
Temperature life per EIA 364-17, condition 3, method A
Solderability per EIA 364-52, category 2 (260°C for 3 seconds)

SERIES 896, 897 • MINI UNIVERSAL SERIAL BUS • SURFACE MOUNT SOCKETS

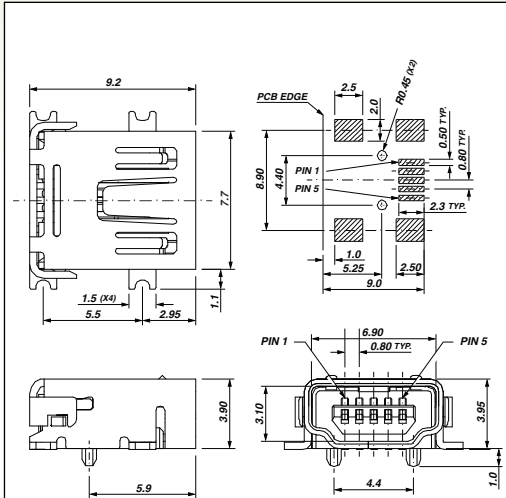


FIG. 1

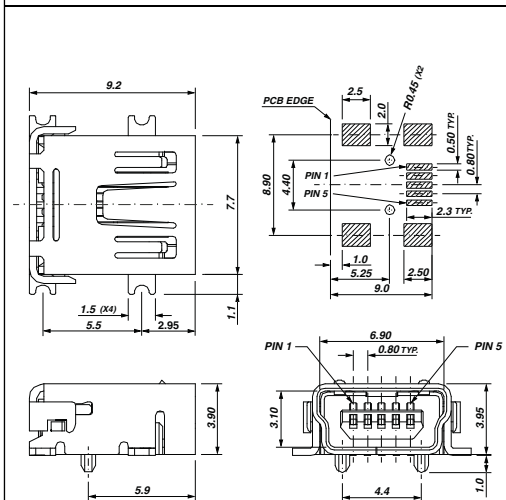


FIG. 2

- Mini USB 3.0 receptacles for surface mount
- 5 Pin (one ID Pin), 0.8mm pitch, mini USB connector
- Reduced mounting space
- Fully Shielded
- Fully compliant with current USB 2.0 specifications
- Smaller and lighter than existing USB connectors for portable & handheld devices
- Packaged on Tape & Reel - 700 pieces per reel



ORDERING INFORMATION

FIG. 1	Mini Type A Receptacle, Single, Surface Mount
	896-43-005-40-100001
FIG. 2	Mini Type B Receptacle, Single, Surface Mount
	897-43-005-00-100001

Technical Specifications

Materials:

Terminals: Copper Alloy, Tin Plated
 Contacts: Copper Alloy, 30 μ " Gold Plated
 Casing and Shield: Stainless Steel
 Insulator material: High temp. thermoplastic rated UL94V-0

Ratings:

Voltage: 30VAC (rms)
 Current: 1A max. per contact for 30°C temperature rise
 All housing materials rated for "lead-free" soldering up to 260° C

Electrical:

Contact resistance: 50m Ω max.
 Insulation resistance: 100M Ω min.
 Dielectric withstanding voltage: 100VAC at sea level
 Capacitance: 2pF max.

Mechanical:

Random vibration: No discontinuity >1 μ s per EIA 364-28, cond. V, letter A
 Physical shock: No discontinuity >1 μ s per EIA 364-27, condition H
 Durability: 5000 cycles min. per EIA 364-09
 Mating force: 35 Newtons max. per EIA 364-13
 Unmating force: Initial - 7 Newtons min. per EIA 364-13
 After test - 3 Newtons min. per EIA 364-13
 Cable Pull-out force per EIA 364-38

Environmental:

Thermal shock per EIA 364-32, condition I
 Humidity per EIA 364-31, method II, condition A
 Temperature life per EIA 364-17, condition 3, method A
 Solderability per EIA 364-52, category 2

