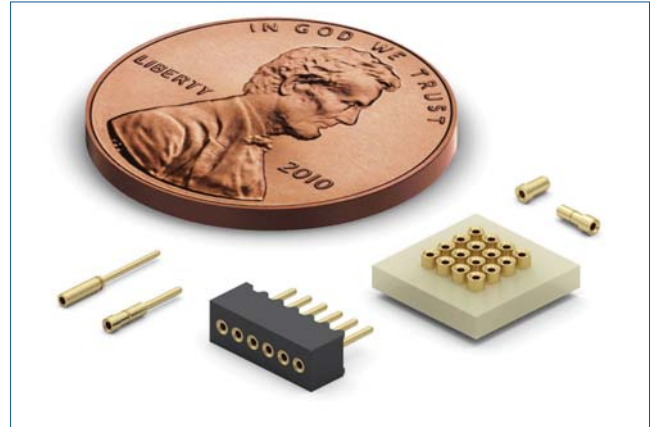


MAXIMUM SOLUTIONS

Mill-Max Offers Miniature Receptacles for Diverse Applications

For applications requiring miniature receptacles, Mill-Max offers four diverse, off-the-shelf products which will fulfill those needs. These receptacles are suitable for use in high density configurations down to 1 mm pitch.

Each receptacle contains our three-finger, beryllium copper contact with a diameter range of .008 (0,2 mm) to .013" (0,33 mm). The contact is characterized by a low insertion force making it compatible with miniature leads subject to bending.



Two of the receptacles, [0439-0-15-15-04-27-04-0](#) and [8210-0-15-15-04-27-04-0](#), have solder tails for through-hole applications. The tail diameters, .014" (.356 mm) and .012" (.305 mm) respectively, minimize the size of the PCB holes to accommodate tight pitch layouts. The 0439 provides an above board height of .090" (2.286 mm) while the 8210 sits at .100" (2.54 mm). Both of these receptacles have press-fit features suitable for mounting in insulators to make connectors.

The [4428-0-43-15-04-14-10-0](#) receptacle is a low profile, solder mount, open bottom receptacle fitted with Mill-Max's Organic Fibre Plug®. The OFP® provides a temporary solder barrier preventing solder paste from entering the contact area during assembly for paste-in-hole reflow soldering. After assembly, the fibre plug is knocked out when the mating lead is plugged in; the now open bottom allows long leaded devices to pass through. The 4428 series is available in bulk or on tape & reel for automatic assembly.

The last of the four receptacles is the [9928-0-15-15-04-27-40-0](#). It is a SMT receptacle mainly used for 1 mm grid socket configurations such as in BGA socket and adapter pairs. The small .016" (.406 mm) diameter base of the receptacle is ideal for 1 mm grid PCB layouts and the .090" (2.286 mm) height helps to keep overall packaging profiles to a minimum.

The receptacle shells are made from brass alloy and, like all Mill-Max pins, are high-speed machined to precision tolerances. The inner contact is press-fit into the receptacle shell forming a gas-tight connection. It is precision stamped from beryllium copper strip and heat-treated to provide excellent spring and electrical properties. All four receptacles have a current rating of 2 amps. Both the receptacle shells and contacts are gold-plated providing the highest interconnect reliability, corrosion protection and wear resistance.

For more information, please visit: www.mill-max.com/PR666.

(6/16 -- PR666)

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



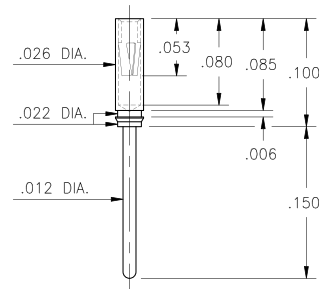
PIN RECEPTACLES

**FOR .008" - .013" DIAMETER PINS (#04 CONTACT)
AND .012" - .017" DIAMETER PINS (#10 CONTACT)
(SEE SPECIFIC CONTACT RANGE ON PAGE 250)**

8210

8210-0-15-15-04-27-04-0

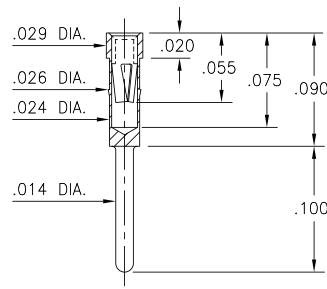
Press-fit in .024/.027 stepped hole



0439

0439-0-15-15-04-27-04-0

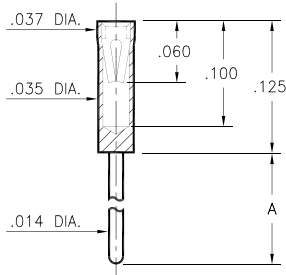
Press-fit in .025 mounting hole



X464

X464-X-15-XX-10-XX-04-0

Solder mount in .016 min. mounting hole

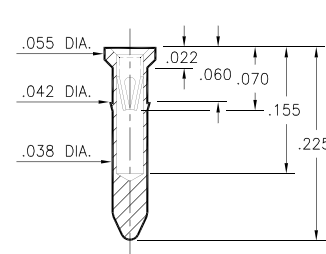


Basic Part Number	Length A
0464-0	.125
0464-1	.250
6464-0	.275

9225

9225-0-15-XX-10-XX-10-0

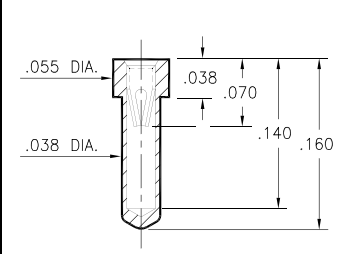
Press-fit in .039 mounting hole



0529

0529-0-15-XX-10-XX-10-0

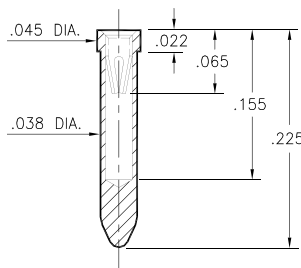
.040 min. mounting hole



8947

8947-0-15-XX-10-XX-10-0

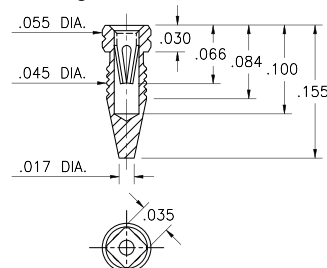
Solder mount in .040 min. mounting hole



4993

4993-0-15-15-10-27-10-0

Compliant press-fit in .041 - .043 Dia. mounting hole



SPECIFICATIONS:

Shell Material: Brass Alloy 360, 1/2 Hard

Contact Material: Beryllium Copper Alloy 172, HT

Dimensions: Inches

Tolerances On: Lengths: ±.005

Diameters: ±.002

Angles: ±2°



ORDER CODE: XXXX - X - XX - XX - XX - XX - 0

BASIC PART #

SPECIFY SHELL FINISH:

- 01 200 μ" TIN/LEAD OVER NICKEL
- ◆ 80 200 μ" TIN OVER NICKEL (RoHS)
- ◆ 15 10 μ" GOLD OVER NICKEL (RoHS)

SPECIFY CONTACT FINISH:

- 02 100 μ" TIN/LEAD OVER NICKEL
- ◆ 84 100 μ" TIN OVER NICKEL (RoHS)
- ◆ 27 30 μ" GOLD OVER NICKEL (RoHS)

SELECT CONTACT:

**#04 or #10 CONTACT (DATA ON PAGE 250)
(CONTACTS #04 & #10 NOT INTERCHANGEABLE)**



PIN RECEPTACLES

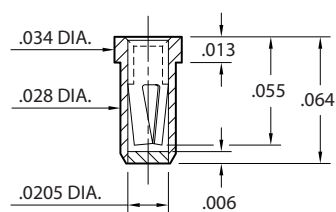
PIN RECEPTACLES WITH ORGANIC FIBRE PLUG® SOLDER BARRIER (SEE SPECIFIC CONTACT RANGE ON PAGES 250, 251 & 253)

- These through-hole (tubular) receptacles are designed for hand, wave or reflow* soldering. The ORGANIC FIBRE PLUG® barrier prevents solder paste or flux from contaminating the spring contact.
- After soldering, the OFP® barrier is pushed out of the receptacle when the device is plugged in.
- All parts are available as discrete receptacles or supplied on carrier tape per EIA-481 to feed industry standard pick and place machines.

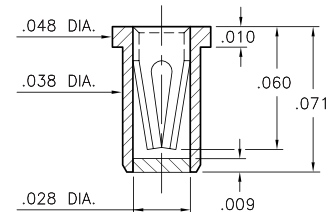
*Intrusive reflow (also called "pin-in-paste") is a technique of using conventional through-hole components in a reflow soldering process. The receptacles are placed into plated through-holes in the circuit board (solder paste has previously been screen printed on pads adjacent to the holes) and the board is reflowed in the same pass as other SMT components. Solder will fill the plated through-holes and achieve solder joints as reliable as wave soldering. The OFP® barrier prevents solder paste from being picked-up inside the contact during pick 'n place assembly. "Overprinting" paste on the solder mask can be used to adjust the volume of paste required to fill each hole.



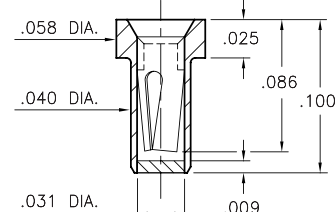
4428
4428-0-XX-XX-04-XX-10-0
Solder mount in $\varnothing .032"$ max. PTH
#04 Contact for $\varnothing .008" - .013"$ pins
Also available on 16mm wide carrier tape:
3,400 parts per 13" reel



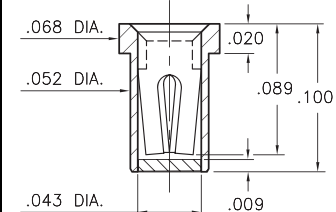
5359
5359-0-XX-XX-10-XX-10-0
Solder mount in $\varnothing .043" \pm .003"$ PTH
#10 Contact for $\varnothing .012" - .017"$ pins
Also available on 16mm wide carrier tape:
3,000 parts per 13" reel



0577
0577-0-XX-XX-21-XX-10-0
Solder mount in $\varnothing .045" \pm .003"$ PTH
#21 Contact for $\varnothing .015" - .022"$ pins
Also available on 12mm wide carrier tape:
3,000 parts per 13" reel



4015
4015-0-XX-XX-30-XX-10-0
Solder mount in $\varnothing .057" \pm .003"$ PTH
#30 Contact for $\varnothing .015" - .025"$ pins
Also available on 8mm wide carrier tape:
5,500 parts per 13" reel



SPECIFICATIONS:

Shell Material: Brass Alloy 360, 1/2 Hard
Contact Material: Beryllium Copper Alloy 172, HT
Solder Barrier: Organic Fibre Plug®
Dimensions: Inches
Tolerances On: Lengths: $\pm .005$
Diameters: $\pm .002$
Angles: $\pm 2^\circ$



ORDER CODE: XXXX - 0 - XX - XX - XX - XX - XX - 0

BASIC PART #

SPECIFY PACKAGING:

- 43 Discrete Receptacles
- 67 Supplied on 13" Reels

SPECIFY SHELL FINISH:

- 01 200 μ " TIN/LEAD OVER NICKEL
- 80 200 μ " TIN OVER NICKEL (RoHS)

CONTACT:

#04, #10, #21 or #30 CONTACT (DATA ON PAGES 250, 251 & 253)

SPECIFY CONTACT FINISH:

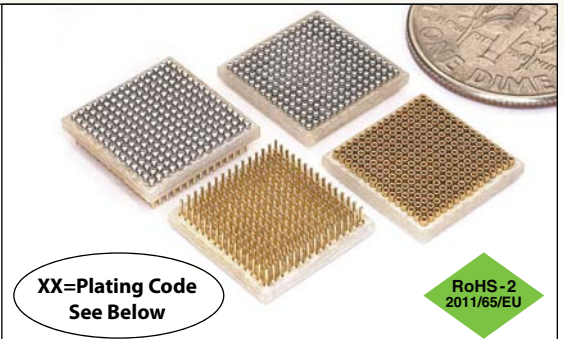
- 27 30 μ " GOLD OVER NICKEL (RoHS)
- 02 100 μ " TIN/LEAD OVER NICKEL
- 84 100 μ " TIN OVER NICKEL (RoHS)

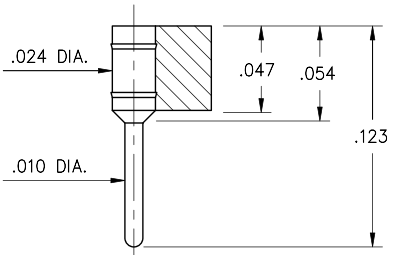
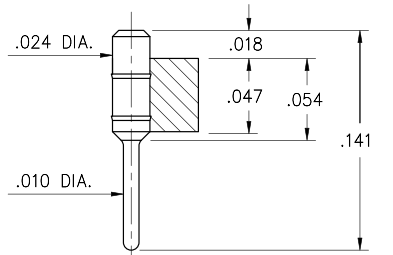
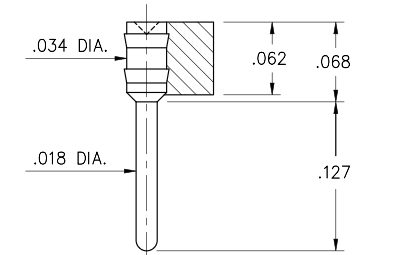
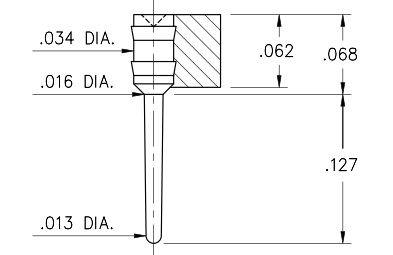
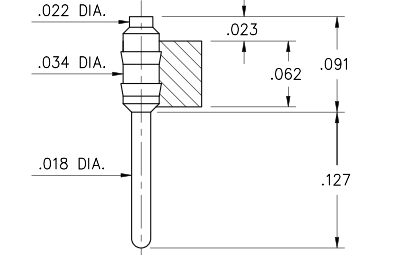
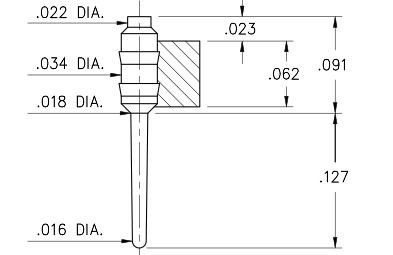
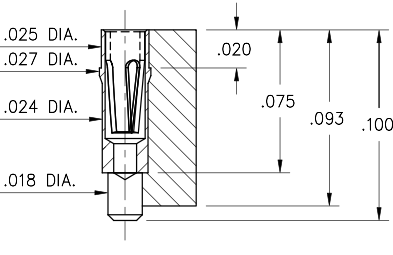
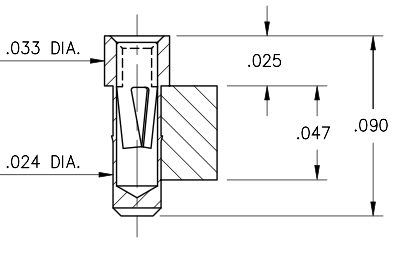
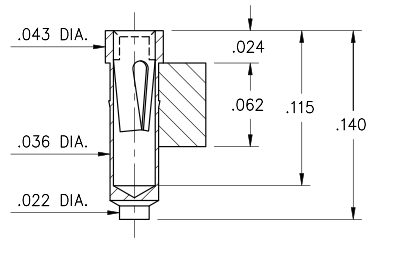







BALL GRID ARRAYS

SERIES 540,579,582,587,599 • FOR 0,8mm GRID, 1mm GRID & .050" GRID • MALE PIN ADAPTERS AND FEMALE SOCKETS

- BGA adapter/socket systems are a reliable way to make BGAs pluggable. They may also be used as a high density board-to-board interconnect
- The BGA device for a 0,8mm or 1mm grid is soldered to a 9929 adapter (or a 7929 adapter is soldered to a PCB), then either one can be plugged into a 9953 (0.8mm grid) or 9928 (1mm grid) surface mount socket
- The BGA device for a .050" grid is soldered to a 8737/4048 adapter (or a 4098/4054 adapter is soldered to a PCB), then either one can be plugged into a 8214 surface mount socket
- Both socket and adapter have the same footprint as the BGA device
- Insertion force is .4N per pin for standard pins 7929/9929, 8737/4098. Tapered EZ-IN pins 4048/4054 reduce insertion force to only .08N, and are recommended for pin counts greater than 500
- Insulator material is FR-4 epoxy having a TCE to match the BGA device and circuit board
- For Electrical, Mechanical and Environmental Data, see page 141 for details



<p>SERIES 599...429 BGA MOUNT TYPE #9929</p>  <p>For 0,8mm & 1mm Grid Only</p>	<p>SERIES 579...429 PCB MOUNT TYPE #7929</p>  <p>For 0,8mm & 1mm Grid Only</p>	<p>SERIES 587...437 BGA MOUNT TYPE #8737</p>  <p>For .050" Grid Only</p>	
<p>SERIES 540...448 EZ-IN BGA MOUNT TYPE #4048</p>  <p>For .050" Grid Only</p>	<p>SERIES 540...498 STANDARD PCB MOUNT TYPE #4098</p>  <p>For .050" Grid Only</p>	<p>SERIES 540...454 EZ-IN PCB MOUNT TYPE #4054</p>  <p>For .050" Grid Only</p>	
<p>SERIES 599...453 SURFACE MOUNT TYPE #9953</p>  <p>For 0,8mm Grid Only</p>	<p>SERIES 599...428 SURFACE MOUNT TYPE #9928</p>  <p>For 1mm Grid Only</p>	<p>SERIES 582...414 SURFACE MOUNT TYPE #8214</p>  <p>For .050" Grid Only</p>	
<p>Visit www.mill-max.com/bga to configure a formal part number</p>	<p>SPECIFY PLATING CODE XX =</p> <p>Sleeve (Pin)  10 μ" Au</p> <p>Contact (Clip)  10 μ" Au</p>	<p>SPECIFY PLATING CODE XX =</p> <p>Pin Plating  10 μ" Au</p>	<p>11 </p> <p>10 </p>

