

MAXIMUM SOLUTIONS

Mill-Max BGA Socket/Adapter Systems

Mill-Max's BGA Socket/Adapter Systems are used for both socketing BGA devices and interconnecting circuit boards. Systems are available to fit 0.8mm, 1.0mm and .050" grid footprints.

For socketing BGA devices, a **Socket** is reflow soldered to the same footprint as the device using solder paste, and the balled device is soldered to a **BGA Adapter** (pin header) with either flux or paste. The device may now be plugged into circuit. A simple pry-bar tool is available for removing the BGA and its adapter from the socket.

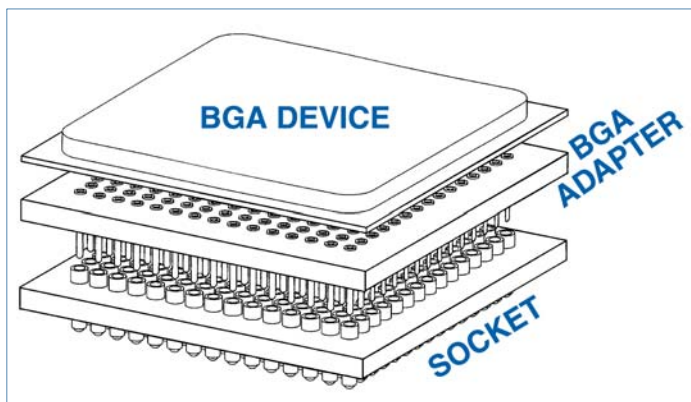
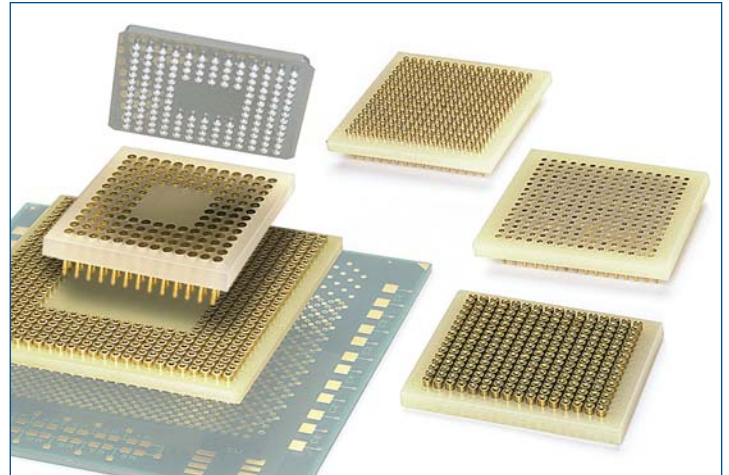
For interconnect applications, a PCB Adapter (pin header) is soldered to the surface of the daughter card, thereby making it pluggable into a mating Socket surface soldered to the motherboard. BGA Socket/Adapters provide a high density and low profile interconnect system.

All pins and sockets utilized in Mill-Max BGA Systems are precision-machined brass and plated gold. Press-fit into every mating socket is a beryllium copper "three-finger" contact, also gold-plated (heat-treated BeCu is the best spring material for electrical contacts). Mill-Max #04 contact with a .010" dia. mating pin is used for 0.8 & 1mm grid systems, #05 contact with a .018" dia. pin for .050" grid systems.

A tapered "EZ-IN" pin is also available for .050" grid systems; it dramatically reduces the insertion force from .4N down to .08N per pin. This option is recommended for pin counts greater than 500.

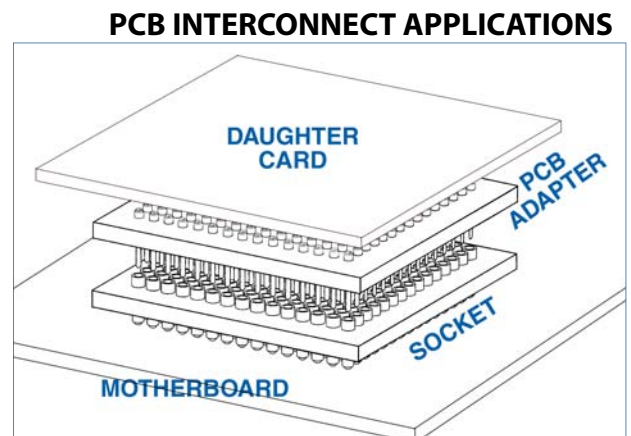
The insulator for the socket and both adapters is machined FR-4 glass epoxy laminate that has a TCE to match the BGA device and circuit board: .047" thick epoxy for 0.8mm & 1mm grid systems, .062" thick for .050" grid.

For more information, visit mill-max.com/PR543.



BGA MOUNT APPLICATIONS

(11/13 -- PR643)

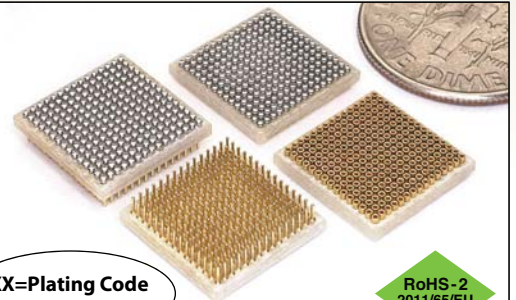


PCB INTERCONNECT APPLICATIONS

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 9942 (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



**XX=Plating Code
See Below**



<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...442 SURFACE MOUNT TYPE #9942</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>

