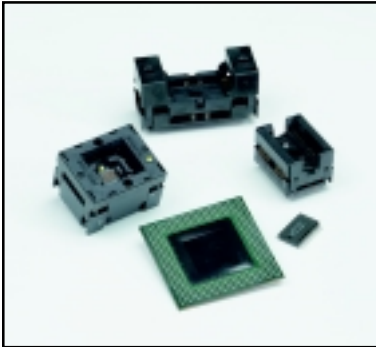
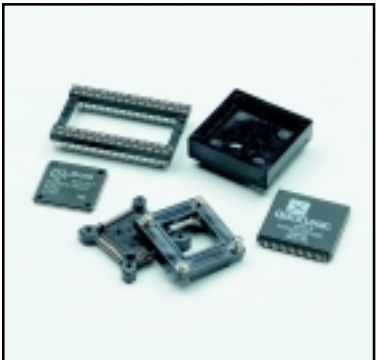


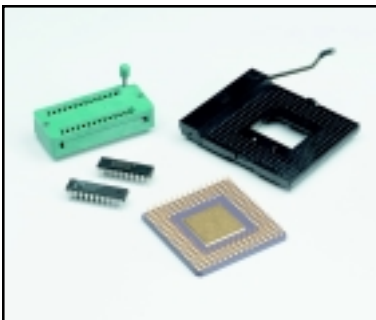
Open-top, Flip-top, Auto-eject, thru-hole, surface-mount and custom I.C. sockets



Fine pitch BGA and SOIC Devices



Through hole and surface mount designs



46 *Test and Burn in or Production styles*

IC Sockets

Socketting expensive IC's or holding the firmware during the debugging phase of a new design is not only advisable, for most applications mandatory. The Adapters.com sales staff has over 50 years combined experience working with IC packaging and there applications. In some cases we know the product better than the manufactures themselves.

PRODUCTION

These sockets are usually installed on the target PCB and allow the user to remove the package only when necessary. They also can provide an interface between the target board and a test instrument. Insertion cycles are typically 15-25 times.

ZERO INSERTION FORCE (ZIF) OR BURN-IN

These sockets are designed so the packages can be easily inserted and extracted, withstanding as many as 10,000 cycles. Variations include flip-top or "lidded" and open-top. Flip-top sockets perform like a clam shell with a lid that closes on the package. Open-top or auto-eject sockets allow you to drop the IC into it. Most open-top and auto-eject sockets are spring-loaded to hold the IC.

SURFACE MOUNT

There are both surface mount sockets for production as well as burn in applications. Most SMT sockets have a mechanical or screw type locking mechanism. If your application requires constant insertion and extraction these socket would not be advisable.

THROUGH HOLE

This style remains the most widely used type of socket. Whether your looking for one or two, or a thousand we have the knowledge to locate what will work best for your application.

POGO PIN OR SOLDERLESS

With today's ever down sizing of high density packaging the solder less form or Pogo pin style socket is becoming a popular choice. Due to mounting requirements this must be selected very early in the development cycle but can save time and expensive out sourced assembly charges.

SOCKET SELECTION

FLIP-TOP (CLAMSHELL)

OPEN-TOP

AUTO EJECT

SURFACE MOUNT

THROUGH HOLE

TECHNICAL SUPPORT

WE HAVE THE KNOWLEDGE

WE HAVE THE EXPERIENCE

WE HAVE THE SOLUTIONS

CUSTOM SOCKETS

WE ARE THE DESIGN

SPECIALIST

IC SOCKET PROBES

ANY SOCKET FOR

ANY DEVICE

Ball Grid Array

Socketing BGA devices has fast become one of the more talked about areas for engineers and developers alike. Many hours can be spent looking for the correct socket at the sacrifice of valuable development time. At Adapters.com we have the staff with experience to get you the right one. Just send us your IC package requirements and we can advise you on the variety of sockets available to you and find which is best for your application.

SURFACE MOUNT

SCREW LOCK SOCKETS

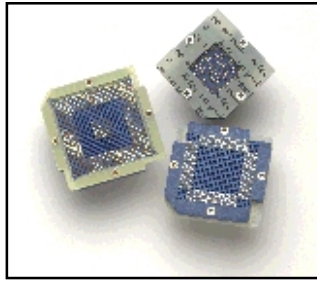
Screw Lock BGA sockets offer a cost effective method for mounting 1.27mm, 1.0mm and 0.8mm BGA devices. These sockets offer two types of SMD contacts. The standard contact is 1.2mm in height used in all standard off the shelf solutions, and a raised 5.0mm height contact is also available as a special order item. The SMD screw lock sockets solder to the board same as the device without additional mounting requirements and only occupy 6.0mm beyond the outer ball row.

SCREW LOCK SOLDER TAIL SOCKETS

All the grids and patterns available to you in SMD style are also available in a solder tail screw lock configuration. These sockets plug into your target board like a true test & burn-in socket allowing you to test multiple boards without purchasing several sockets.

KNOB LOCK & ZIF LEVER LOCK SOCKETS

If your application requires the constant insertion and extraction of your device then the Screw lock sockets may not be the best for your application. The "Knob" or "Zif lever" lock type will serve your needs better. With these sockets the device is inserted and then held in place with either a single Knob lock or dual lever locking mechanism. They come in the same IC package configurations, in both the SMT or through hole target interface, and support the 1.27, 1.0, and 0.8mm IC footprints.



Screw Lock BGA sockets



NP280 series lidded zif BGA sockets

SOLDERLESS

COMPRESSION "SOLDERLESS" SCREW LOCK SOCKETS

The solderless or compression version of sockets are easily mounted to the PCB using 4 designed in mounting holes and proper alignment is typically aided by optional guide pins. Coplanarity is either insured by the included assembly board the actual compression when assembled, and reliable contact is achieved with the use of high performance gold plated, spring loaded contacts.

COMPRESSION "SOLDERLESS" KNOB LOCK SOCKETS

These sockets are the same as those described above but have a Knob Lock System that allows for faster insertion and extraction of the BGA device.

Note: Due to the nature of the mechanical requirements involved in mounting our solderless sockets, these must be designed into your test environment.

THROUGH HOLE

1.0, 0.8MM, NP280 SERIES

The NP280 series sockets are a true test and burn in workhorse. Designed utilizing lidded insertion method for ease of use and increased life. Reliable two finger contacts made of beryllium copper insure performance in any design environment. Through hole mounted interface on injection molded bodies and stainless steel hardware will produce cycle counts well into the thousands.

0.75MM, NP291 SERIES SOCKETS

The NP291 series sockets offer similar features in quality as the NP280 series in an open top design. Finger touch accutuation around the perimeter and molded body to insure accurate device orientation. Through hole interface with locator post and sliding pin saver built in. Open top helps keep device temperature down during testing.

0.8MM, NP351 SERIES

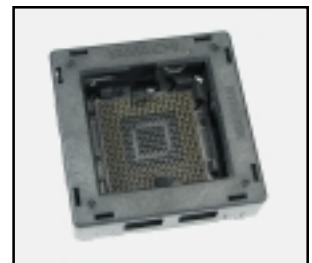
NP351 sockets are open top designs with the same functions and range of features as the NP291 series just for 0.8mm devices.

1.27MM, NP276 SERIES

NP276 sockets are open top designs for 1.27mm IC's. Open top designs helps dissipate heat during testing and there are less problems finding a mate due to not having to worry about package thickness when closing a lidded type socket.

FULL PRODUCT LINE SUPPORT

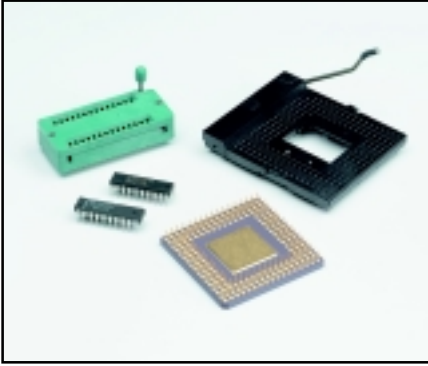
Adapters.com for years has been associated with the top manufactures of high quality, high performance test sockets. Our sales staff are familiar with sockets from Yamaichi, Wells/CTI, 3M Textool, S.E.R., Plastronics, TET, Texas Instruments and many others.



NP276 series open top BGA sockets

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications from the manufacture
- Application requires surface mount, through hole, open-top, or clamshell type socket
- If applicable solderless mounting requiremnts need to be designed in.
- Note extra requirements, i.e. size and height restrictions, electrical performance characteristics



DIP lever actuated ZIF sockets

SOCKET OPTIONS

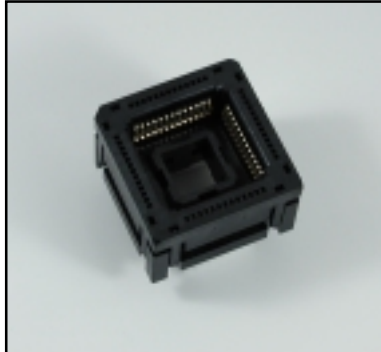
- PRODUCTION
- ZIF-LEVER ACTUATED
- SURFACE MOUNT
- THROUGH HOLE
- SHRINK DIP IC PACKAGES

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications or see IC packaging pages 2-12
- If production application, through hole, SMT, board - board, and packaging ie. tubes, bulk.
- If Test and Burn-in, lever actuated or auto eject .
- Note extra requirements, i.e. size and height restrictions



IC51 series "clamshell" PLCC sockets



IC120 series Auto-eject PLCC sockets

SOCKET OPTIONS

- TEST SOCKETS
- SMT & THROUGH HOLE
- OPEN-TOP, AUTO-EJECT

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications or see IC packaging pages 2-12
- If production application, through hole, SMT, board - board, and packaging ie. tubes, bulk..
- Determine the IC socket information from IC socket section on page 46-59.
- Note extra requirements, i.e. size and height restrictions

Dip Sockets

Nowhere in the industry will you find a more knowledgeable staff in understanding IC packaging, and at the same time having a practical knowledge of IC socket applications. Try asking a big distributor for that kind of support.

PRODUCTION

In production applications using DIP sockets we see surface mount , through hole and board to board design requirements from 1pc. - 10,000pcs. Most DIP sockets are designed with machine screw pins and receptacles (0.018") or wire wrap post (0.025"). Typical insulators are made from molded plastics or milled FR-4 material. Board to board applications can be used to interface with test instruments or daughter boards.

ZIF / TEST & BURN-IN

DIP test sockets are through hole in design, for ease of use and flexibility in assembling. Typically made from injection molded high temperature plastics, gold plated beryllium copper contacts, and stainless steel hardware ensure high performance, high insertion / extraction ratings.

PLCC Sockets

PRODUCTION

These sockets are typically made from injection molded plastics with a wide variety of machine screw and stamped pin technology. PLCC sockets for production can be both SMT or through hole, and low profile designs can be easily accommodated. In most pin counts we have a low amount of inventory for emergencies.

ZIF / TEST & BURN-IN

Test and burn in sockets for PLCC devices are evenly divided between lidded clamshell or "flip-top" and auto-eject types. The clamshell is an industry standard for ease of use, mechanical and electrical performance. The IC120 series auto-eject socket gives you easy access in an open top design with very low insertion force ratings and high cycle counts. In most cases we have inventory of these sockets in low quantities.

PGA Sockets

As PGA devices come in a multitude of pin counts and a wide array of grids, and patterns, so does the selection of sockets offered at Adapters.com. Our wide selection comes from years of experience and long relationships with all the worlds top socket manufactures. Bringing all this information together in one company.

PRODUCTION

A PGA production socket still has many use in todays designers world. We still use them as interfaces to emulators, board to board interconnects and in the design of modular adapters. Typically the sockets are constructed of plastic or FR-4 insulators, but high temperature materials are also available. The range of terminals for the PGA IC is also quite large.

ZIF / TEST & BURN-IN

There is an available ZIF socket for every gird pattern possible for PGA devices and due to the construction of most sockets, slight differences can be accommodated by just populating or depopulating existing designs. Constructed from the same high quality materials, utilizing injection molded bodies these sockets stand up to the toughest environments. Terminal selection is broad and contact plating ensure connectivity in any pin count.

IPGA Sockets

Interstitial PGA: A PGA device who's pins are on a staggered footprint on 1.27 mm spacing otherwise they are the same as a typical PGA device. Many of todays FPGA are offered in this type of package so we hear about request for this form factor often. You can be confident that our sales staff will know you application.

PRODUCTION

These sockets are made of the same quality materials as the PGA production sockets they are just on a staggered footprint

ZIF / TEST & BURN-IN

The classic lever actuated PGA ZIF socket is also offered in the interstitial PGA footprint.

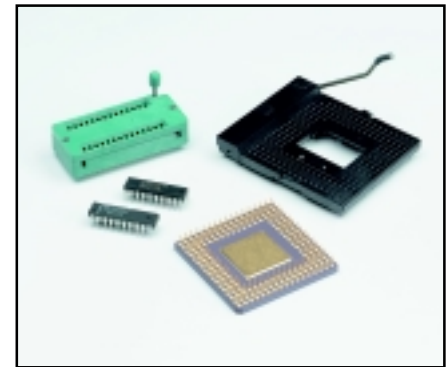
SOCKET OPTIONS

PRODUCTION

ZIF-LEVER

MALE - MALE

SURFACE MOUNT



PGA ZIF sockets

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications or see IC packaging pages 2-12
- If production application, through hole, SMT, board - board, and packaging ie. tubes, bulk.
- if test and burn-in, lever actuated or clamshell.
- Note extra requirements, i.e. size and height restrictions

SOCKET OPTIONS

PRODUCTION

ZIF-LEVER

SMT / THROUGH HOLE

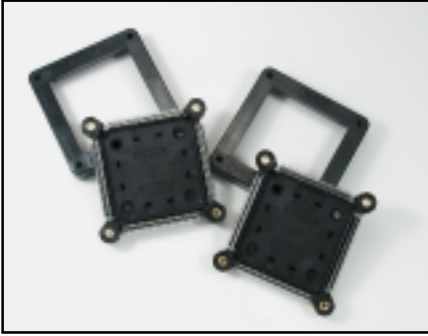
INSERTION AND EXTRACTION
TOOLS IN OUR ACCESORIES
SECTION



Interstitial PGA sockets

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications or see IC packaging pages 2-12
- If production application, through hole, SMT, board - board, and packaging ie. tubes, bulk..
- if test and burn-in, lever actuated or clamshell.
- Note extra requirements, i.e. size and height restrictions



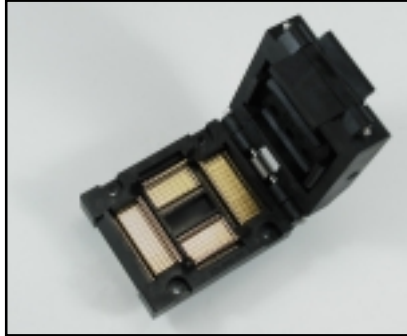
QFP Surface Mount Sockets

SOCKET OPTIONS

SURFACE MOUNT

PRODUCTION & TEST APPLICATIONS

SCREW LOCK DESIGN



QFP Clamshell Sockets

SOCKET OPTIONS

CLAMSHELL & OPEN-TOP DESIGNS

CYCLE COUNTS UP TO 10k

OPEN-TOP

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications
- Application, production or test environment and if surface mount or through hole design.
- Open-top or Clamshell design .
- Note extra requirements, i.e. size and height restrictions

SOCKET OPTIONS

CLAMSHELL DESIGN

SHIPS WITH DUMMY IC FOR PROTECTION

1000'S OF CYCLES

QFN / MLF Clamshell Sockets

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications
- Application information, ie: prototyping, test and burn-in, production.
- Note extra requirements, i.e. size and height restrictions

QFP Sockets

There are so many options in selecting sockets for QFP IC's you need a tour guide to pick your way through the mess. Let the sales pro's at Adapters.com guide you through it right the first time.

PRODUCTION

The IC149 series socket is the most popular QFP production socket on the market today. This socket is made from injection molded materials, and utilizes both solder plate and gold plated contacts and can be provided with or without locating post. The IC149 series has a larger SMT footprint than most of the IC packages it supports , so this part must be designed in at an early stage.

Please also see the PolyPod section on page 24 for our line of QFP surface mount sockets for test applications.

ZIF / TEST & BURN-IN

The IC51 series and our Open-top series QFP sockets have long been an industry workhorse. The proven design of these parts allows our end user's to confidently adapt to any QFP package with insertion / extraction cycle rating upwards of 10,000. These sockets are typically through hole but in some customer cases a surface mount socket can be made for testing.

QFN / MLF Sockets

QFN / MLF packages are firmly implanted in the telecommunication industry and since we introduced our line of QFN prototype adapters (see page 72) it was a given that we could support our customers with IC test socket solutions.

ZIF TEST & BURN-IN

Currently only test sockets are available for QFN IC packages. These sockets are through hole, clamshell ZIF sockets built to exacting quality standards. Most come pre-loaded with a dummy IC to insure safe transport from the factory.

SOIC Sockets

As a result of the proliferation of the SOIC package type. Whether your a top engineer, student, or home hobbyist you will sooner than later utilize some form factor of this IC package type. Adapters.com sells and supports a full line of time and cost saving solutions.

PRODUCTION

SOIC production sockets are typically 2 pc. surface mount designs that are low profile and low cost solutions for high run usage. These sockets are meant to be picked and placed by automation machines but we occasionally use them in small run prototypes. Due to the nature of the manufacturing process minimum order quantities exist for almost every type we carry.

ZIF / TEST & BURN-IN

Whether you call it SOIC, SOP, SSOP, or TSSOP, QSOP, MSOP they are all a variation of the original SOIC design. And Adapters.com has a test socket for any pin count or package type. We carry both open-top and clamshell variety from a who's who of the socket manufactures.

TSOP Sockets

Our customers typically request TSOP sockets only for test applications due to the fact most TSOP devices are soldered directly to a production board in manufacturing. The open top style being the most popular for its reliability and ease of use is our most popular seller.

PRODUCTION

We carry the Meritec line of SMT. TSOP production sockets, and some 2 pc. styles that are for high run usage and are subject to minimum order quantities.

ZIF TEST & BURN-IN

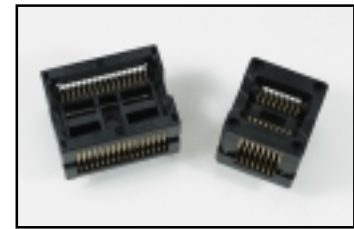
Most TSOP test sockets are open top designs which feature auto eject style device locking mechanisms and reliable performance in a cost effective solution.

SOCKET OPTIONS

PRODUCTION AND TEST APPLICATIONS

OPEN-TOP AUTO EJECT AND CLAMSHELL DESIGNS

SURFACE MOUNT AND THROUGH HOLE



SOIC Open Top Socket



SOIC Clamshell Socket



SSOP Clamshell Socket

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications
- Production or Test application.
- Socket type desired: surface mount or through hole , open-top auto eject or clamshell .
- Note extra requirements, i.e. size and height restrictions

SOCKET OPTIONS

PRODUCTION

OPEN TOP DESIGNS

SURFACE MOUNT

THROUGH HOLE



TSOP type-1 Open Top Socket

QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications
- Application information, production or test environment, surface mount or through hole.
- Determine the IC socket information from IC socket section on page 46-59.
- Note extra requirements, i.e. size and height restrictions