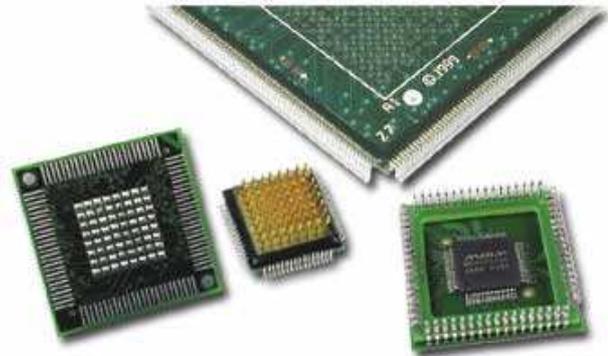

Package Converters & Fix Adapters

We offer many adapters for converting IC packaging and device pin outs, solving many IC availability and performance issues. We also offer fix adapters to solve layout problems and some known chip deficiencies. Custom, quick turn solutions are our specialty.

Standard Parts

- Miscellaneous Package Converters
- DIP to DIP (Top Interface to Bottom Interface)
- DIP to PLCC
- DIP to QFP
- DIP to SOIC
- PGA to PLCC
- PGA to QFP
- PLCC to PGA
- SOIC to DIP
- Device Converters
- Fix Adapters



Package Converters

Package converters provide an electrical and mechanical conversion from one package type to another. We use gold plated interconnects for our pin and through hole converters.

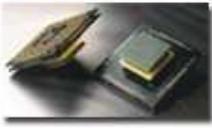


Ironwood Electronics offers solder column adapters as a solution for leaded SMT packages such as QFP, PLCC, SOIC, SSOP, and TSOP. This is an excellent choice when you have a PC board in production that needs an upgrade or you need to replace an obsolete part. The solder column adapter provides a fast, highly reliable connection at a fraction of the cost of competing designs. This makes it an excellent choice for either prototype or production quantities.

The solder column adapter efficiently adapts one footprint to another footprint in a low-profile, compact design. The solder column adapter mounts directly to the SMT pads with a footprint no larger than the actual target land pattern. They are available with a 1:1 connection or a custom net list. Our state of the art design and manufacturing capabilities allow us to replace and upgrade the functions in legacy IC's. Parts can be manufactured as RoHS or non-RoHS compliant depending on your application.

We offer products for each of the following package conversions. The part families are listed in "top interface to bottom interface" order. Follow the links to the on-line catalog's part selection. Be sure to check a part's drawing after selecting one.

Miscellaneous Package Converters



Many device specific package converters of all types have been lumped into this category. Pictured at right is a PGA to BGA converter which supports a Motorola 68338 device.

DIP to DIP (Top Interface to Bottom Interface)

These adapters change the width of your DIP package and use gold plated pins. Part numbers ending in "W" indicate wire wrap pin versions of the adapter.

DIP to PLCC

PLCC interfaces for DIP packages. PLCC interface options: J-leaded surface mount foot (-J); PLCC plug (-P); and clip-on (-C). Some parts offer test points (-T).

DIP to QFP

These two-part adapters consist of a leadless QFP foot (solders to the target board's surface mount land pattern) and a DIP top that plugs into the foot. Some parts offer test points (-T).

DIP to SOIC



These adapters connect DIP packages to SOIC surface mount lands. We typically use a J-leaded foot that will interface with "J-lead" or gull wing land patterns. Parts are available in one-piece or two-piece (pluggable) versions.

PGA to PLCC

These adapters connect a PGA package to a PLCC interface. Two interface options for the bottom PLCC interface are available: a surface mounted J-Lead or a pluggable foot for use with production sockets. These converters can be combined with a PGA male to male socket to create a connection for an in-circuit emulator's female PGA head to a target board's PLCC footprint.

PGA to QFP



These two piece adapters connect a PGA package to a QFP land pattern. The bottom QFP surface mount base part is available in gull-wing (-G) or low profile leadless (-L) versions. The top PGA part plugs to the base using gold plated connections.

PLCC to PGA

These adapters allow PLCC devices to be mounted on PGA through hole patterns. The PLCC device is soldered to the adapter's surface mount lands, giving the highest possible reliability. They also provide a reduced height compared to our converters with ZIF sockets.

SOIC to DIP

These adapters allow SOIC packages to be mounted on DIP through hole patterns. The SOIC device is soldered to the adapter's surface mount lands, giving the highest possible reliability. The adapter will accommodate J-leaded or gull wing SOIC devices.

Device Converters



When availability or performance of a given IC becomes an issue, an Ironwood device converter allows the use of a substitute device without requiring redesign of the target system. Package type, package code, even pin outs can be changed with an adapter that fits in the original package space. We offer a number of standard device converter parts, however, device converters are typically developed to your unique specs. Ironwood Electronics is the industry leader in developing custom solutions. Our custom engineering staff is the strongest and most experienced in our industry. Quick turn design and manufacturing is a hallmark of our service to customers.

Fix Adapters



Fix adapters solve design or layout problems, often by modifying pin out, package code characteristics and/or package type. They may incorporate corrective circuitry. These adapters are generally custom solutions, however, we offer some fix adapters as standard products in our catalog.

In many situations, the board is laid out for a wrong pitch or the error occurred while transforming the design from english to metric or vice-versa. Since the device cannot be assembled on to the board, a fix adapter typically made of FR4 with leads or solder balls same as the device is used to solve the problem. The bottom interface of fix adapter matches the error prone board and provides the right land pattern on the top to receive the device. This adaptation can be 1:1 mapping from bottom to top or signals can be fixed due to wrong pin mapping also.

To err is human, to adapt is divine. Fix adaptors come in all sorts of configurations and are usually specific to the mistake that was made. Fix adaptors often overlap with the package conversion function.

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