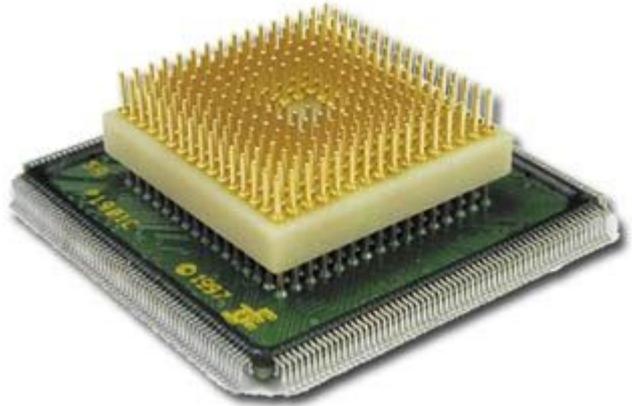

Surface Mount Package Emulation

Ironwood has developed the industry's widest range of interconnection adapters for testing and socketing of SMT devices. We offer SMT bases and thru-hole adapters for BGA, QFN, MLF, PLCC, QFP, and SOIC packages. SMT Package Emulators provide highest speed, reliability, and lowest insertion force.



Standard Parts

- [QFN/MLF surface mount emulator base](#)
- [QFN/MLF adapter to receive IC devices](#)
- [PLCC SMT Emulator Bases](#)
- [LCC SMT Emulator Bases](#)
- [QFP surface mount emulator base](#)
- [SOIC Surface Mount Emulator Base](#)

Technical Documents

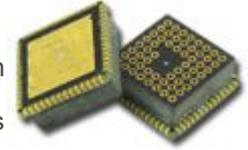
- [Emulator base without side castellation - Soldering instructions, see ksi.pdf](#)
- [Emulator base with side castellation - Soldering instructions, see lsi.pdf](#)
- [S-Parameter Simulation for Sockets & Adapters](#)

SMT Adapters - Reliable, Easy to plug, High Speed

Ironwood's SMT package emulation adapters are often called "surface mount feet" or "emulator bases". These adapters provide access and interconnections to surface mount lands. Typically, the adapters are soldered to the target board in place of the IC device and provide a pluggable array of pins interface for sockets, probing adapters, package converters, and even board-to-board connections. These adapters are often utilized as a base for many of our probing adapter products. We constantly innovate to provide the most reliable, cost effective interfaces available. For example, many of our PLCC, QFP and SOIC emulation bases use our proprietary shaped solder techniques, replacing expensive, and often fragile, J-lead and Gull Wing leads. Shaped solder parts are easily fluxed and reflowed onto the target system. Our emulator bases can present either a male or female interface at 1.27mm or 1mm or 0.8mm pitch gold plated array pins for pluggable connection.

QFN/MLF Surface Mount Emulator Bases

Patented QFN SMT Feet provide a reliable method for interconnecting to QFN pads on the target PCB. These high performance adapters have the same pad configuration as the QFN IC being emulated and a female socket array to which various adapters can be plugged. The SF-QFN/MLF small footprint Surface Mount Package Emulator Feet for all sizes of QFN/MLF, pitch ranging from 0.4mm to 0.65 and many body sizes. These devices use patented technology to achieve a reliable and chip size SMT QFN/MLF adapter. The SF-QFN/MLF has pads on the bottom that precisely match the pin layout for the QFN/MLF package including the E-pad or heat sink pad in the center of the pattern. This allows connection to a QFN/MLF land pattern of target board and provide a set of interconnects available for probing or connecting to another assembly. The user simply solders the SF-QFN/MLF adapter using the same solder reflow and attachment methods used for a QFN/MLF IC. The SF-QFN/MLF adapter is the same size as the QFN/MLF IC in the XY dimension and only 3.3 mm high. The top of the adapter after being attached to the target consists of female, machined socket pins with complete gold plating for maximum reliability.



QFN/MLF adapter to receive IC devices

The target IC is soldered to the LS-QFN/MLF. The two parts (SF and LS) are interconnected together with gold plated machined pins enabling highest reliability for emulation, probing, or interconnection of the QFN/MLF device. Many sizes of QFN/MLF SMT adapters are shown in the table.



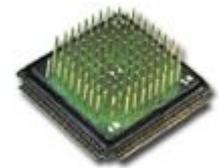
PLCC SMT Emulator Bases

Our PLCC surface mount feet utilize J-leads to attach to the target system's SMT lands. They present an array of gold plated, 0.05" pitch MGA "mini-grid" pins for top side connection. There are various part profiles and pin length configurations available.



QFP Surface Mount Emulator Bases

We offer more than 150 surface mount feet for QFP interfaces. Our proprietary shaped solder technology, gull wing leads, or leadless systems are employed to attach the part to the SMT lands on the target board. These parts present our MGA (.05" pitch "mini-grid") array of gold plated pins to provide pluggable connections.



SOIC Surface Mount Emulator Bases

Our SOIC surface mount feet are offered in leadless (-L), J-leaded (-J), or bottom termination (-K) variations. When soldered to the target SMT lands, they create a pluggable connection by presenting an array of gold plated pins. Some of these parts utilize our smallest 0.8mm pitch "micro-grid array" technology.

