Loranger Product Applications

Loranger Sockets are designed to withstand the conditions of burn-in, test, HAST, humidity and repeated insertions. Below are some of the applications for Loranger sockets.

Thermal Management

Loranger offers socket solutions to manage high wattage packages. Solid metal heat pipes which contact the center device pad can be soldered to a ground plane in the board, or connected to a Loranger finned heat sink mounted to the bottom of the board. Loranger heat sinks can also be mounted on the top of sockets.

QFN Socket with Solid Metal Heat Pipe to Contact Device Center Pad

QFN Socket with Bottom Mounted Heat Sink; BGA/CSP Socket with Top Mounted Heat Sink

Fine Pitch Sockets

Loranger sockets are available in over 120 different standard and custom contact pitches. Typical pitches include 1.27 mm, 1.0 mm, 0.80 mm, 0.50 mm, 0.40 mm, 0.35 mm, 0.30 mm, 0.25 mm and smaller.

Compression Mount Socket for a QFN Package with 0.30 mm Pitch

Dual Position, Compression Mount Socket for a BGA Package with 0.22 mm and 0.23 mm Pitches

Optical Access To the Package

Loranger offers socket solutions to accommodate your optical and standard packages that require access to the top of the package. Test and Burn-in Sockets can be designed for digital camera imaging sensors, LEDs, and other optical package styles. Openings in the socket cover allow access to the top of the package to measure the light being emitted from the package, for directing light onto the package, or for failure analysis such as Emission Microscopy.

QFN Style Sockets with Cover Openings for Optical Access to the Package

Test and Burn-in Socket for a Digital Camera Imaging Sensor
Nonmagnetic Sockets

Loranger sockets are available with optional nonmagnetic materials for test and burn-in of devices that are affected by nearby magnetic materials.

Test and Burn-in Socket with Nonmagnetic Materials for a QFN Style Package

Humidity and HAST Conditions

Loranger sockets can be used for 85°C / 85% humidity, and 130°C / 85% humidity (HAST) conditions. Loranger also designs and manufactures printed circuit boards and systems for these conditions.

Loranger 85°C / 85% Relative Humidity Chamber with Wiring Feed Through, Internal Rack, Equipment Rack, Controls and Power Supplies

Loranger LGA Socket on Loranger Humidity / HAST Printed Circuit Board

Radiation Hardening

Loranger sockets can be used in Radiation Hardening test applications. Loranger has sockets for the standard TO, SMD and other package styles.

Kelvin Test and Burn-in Socket for Two and Three Lead TO Packages

Sockets for Various Package Types such as QFN, LCC, and SMD
SmartSockets

Loranger sockets can be configured with a combination of a Heat Sink, Heater, RTD, and Control Circuitry. The Heater and/or RTD can be connected to a burn-in or test board. Optional Control Circuitry on the socket can be programmed with a computer to a desired set temperature, and can also log temperature readings.

High Current Capability

Loranger can add multiple contacts to device pads as space allows to accommodate high currents.

200 C to 300 C Test and Burn-in

Standard Loranger sockets are available for up to 140 C or 175 C use. Optional socket materials are available for up to 210 C use, and for up to 300 C use.

Socket with Multiple Contacts per Each ZIG ZAG Package Lead

Socket for High Current, Surface Mount Package. Socket has Multiple Contacts per Package Pad

Surface Mount DIP Style Sockets are Available for up to 300 C Use.
Kelvin Connections

Hundreds of Loranger sockets are available with Kelvin connections. A Kelvin connection is two contact connections to one device pad or lead. When the device pad space is limited, Loranger also offers a "Double Duty Kelvin" contact.

Loranger International Corporation designs and manufactures burn-in and test sockets, printed circuit boards and environmental chamber systems for the electronics manufacturing industry. Loranger International Corporation sockets are optimized for today’s small, fine pitch electronic packages including QFN, as well as for older style packages. Loranger International Corporation burn-in and test sockets are used worldwide in programs including defense, guidance, automotive, music, communication and space exploration.

Loranger Contact Information