



# Robson Technologies, Inc.

## Universal Array IC Test Sockets

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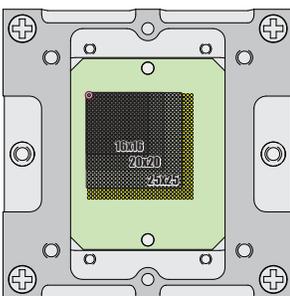
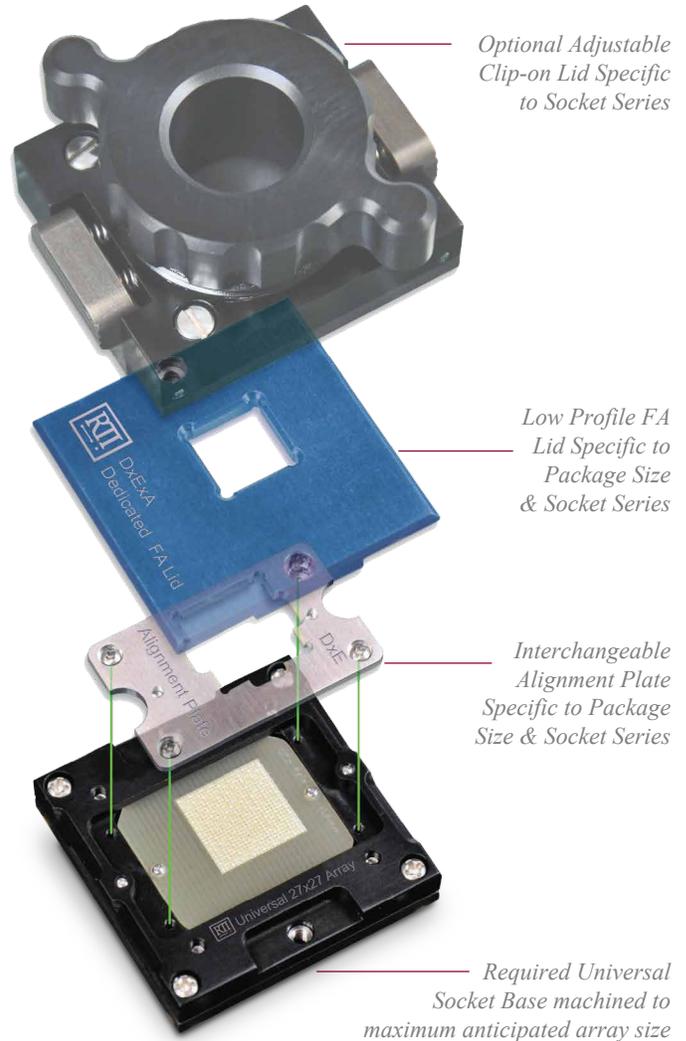
RTI designed these multi purpose test sockets for BGA, LGA, WLCSP, die level packages, and other arrayed IC packages that share a common pitch but differ in lead frame size.

A device-agnostic socket base is produced for the maximum size array you require for devices with a common pitch as low as 0.3mm. A device-specific alignment plate drops into the test socket nest and can mask over the pin array leaving only the pins corresponding to the DUT footprint exposed. The alignment plate combined with the drilled holes in the floating base of the socket provide precise alignment and justify the DUT to the A1 corner of the pin array.

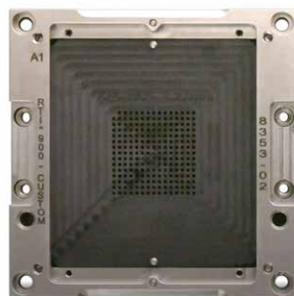
For WLCSP and fragile wafer level packages, a quartz or sapphire glass window lid is used to apply compression force and avoid cracking the device. For packaged IC devices, a low profile open top lid is used alone or with a clip on adjustable lid for high compression force.

### Universal Array Socket Options

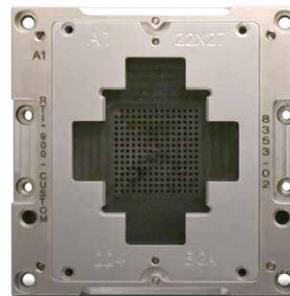
- ♦ Reduce long term cost of test by purchasing a single socket body to test multiple package footprints instead of a dedicated test socket for each package outline
- ♦ Floating base test socket design for improved package alignment and pogo pin longevity
- ♦ Machined aluminum alignment plates for packaged ICs
- ♦ ESD safe plastic alignment discs for WLCSP devices
- ♦ Custom pin loading and A1 positioning available
- ♦ High Force Latch Lid and dual latch adjustable lids available for high pin count arrays
- ♦ Standard 1.5", 2.0", and 2.5" sized socket bases with custom sizes and mounting footprints available



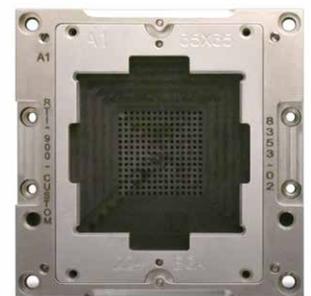
Universal Array socket base can be loaded with different DUTs sharing the same pitch



Universal BGA Array socket base drilled for 15x15 array accepts packages with up to 224 balls



Same socket base with a DUT specific alignment plate for a 22x27mm device



Same socket base with a DUT specific alignment plate for a 35x35mm device

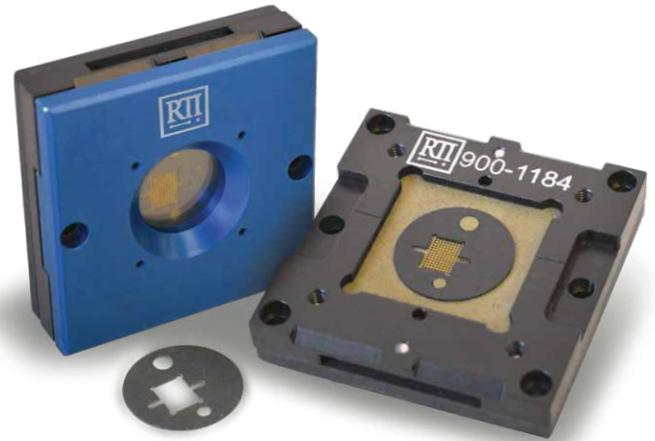


# Universal Array IC Test Socket Solutions (cont.)

## Universal WLCSP Optical Socket Overview:

With RTI's universal WLCSP test sockets and glass window lids, you have full surface visibility of the most intricate bumped wafer level packages. Very fine pitch universal array socket bases use an ESD safe alignment disc to justify A1 to the upper left of the array. The thin alignment feature is machined to the thickness of the UUT in its test position which provides a larger surface area for distributed compression force from the glass swatch on the lid.

The low profile screw-down lids include a replaceable piece of quartz or sapphire glass that makes direct contact to the DUT and alignment disc. These lids grant 100% edge-to-edge visibility of the DUT surface and still allow for a low angle of attack for a light source, ideal for EMMI inspection. SEM electron testing is not recommended due to charging up the glass and possibly causing white out. The glass disc is easily replaceable, should the need arise.



*Universal WLCSP test socket with and without a lid. ESD safe alignment discs are machined for each DUT size and quartz/sapphire window lids offer 100% visibility of the DUT surface during test*

## Universal WLCSP Socket & Lid Features:

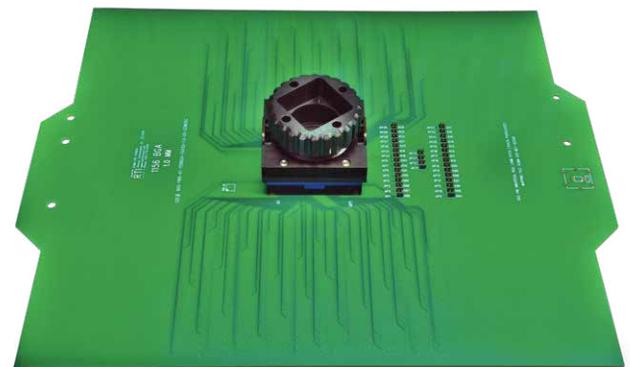
- ♦ Replacable quartz or sapphire swatches
- ♦ Glass swatches available in different diameters
- ♦ Designed for 1.5" and larger socket bodies
- ♦ Ideal for EMMI and laser test applications
- ♦ Socket + Lid = 1cm total thickness
- ♦ Single lid may be used with multiple devices that share the same thickness
- ♦ Universal socket body: test multiple device sizes with a single socket body



*Quartz and Sapphire glass swatches are available in a variety of sizes and mount to the lid with a retainer plate and four screws*



*Universal BGA test socket with and without device specific alignment plate. Not shown: low profile lid required for use*



*Universal 1152pin BGA test socket mounted to MK4 Loadboard*