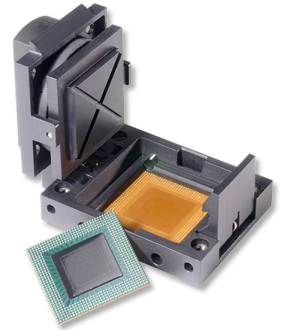




# High-Frequency Center Probe Test Socket for Devices up to 55mm Square

## FEATURES

- Aries unique universal socketing system allows the socket to be easily configured for any package, on any pitch (or multiple pitch) from 0.2mm or greater, in any configuration, with little or no tooling charge or extra lead-time.
- For Test & Burn-In of CSP,  $\mu$ BGA, Bump-Array, QFN, QFP, MLF, DFN, SSOP, TSSOP, TSOP, SOP, SOIC, LGA, LCC, PLCC, TO and any SMT package style made. Also can be compatible with PGA packaged devices.
- Quick and easy **Probe Replacement System**: the complete set of probes can be removed and a new set (interposer) can be inserted quickly and easily. The old set can be returned to the factory for repair and sent back within one day.
- 4-point crown insures scrub on solder oxides, while pointed probe works with LGA's, MLF's, etc.
- Single-point Probes available for small land area contact pads.
- Signal path during test only 0.077 [1.96].
- Socket is easily mounted and removed to & from the test board due to solderless pressure mount compression Spring-Probes which, are accurately located by two molded plastic alignment pins and mounted with four stainless steel screws.
- The Au over Ni-plated compression Spring-Probes leave very small witness marks on the bottom surface of the device solder balls.
- Standard molded socket format can accommodate any device package of 55mm square or smaller.
- The spring loaded, cam actuated Pressure Pad applies proper force against the device after the lid is closed, latched and the cam is rotated to it's detected location. Reversing the cam removes the force applied to the device prior to unlatching the spring loaded lid to it's upright position.



## GENERAL SPECIFICATIONS

- MUTUAL CAPACITANCE: 0.012pF
- MOLDED SOCKET COMPONENTS: UL 94V-0 PEEK and/or Ultem
- 1dB BANDWIDTH: to 18.5GHz (0.50mm pitch) (small probe) <3dB to 39.7GHz
- PIN SELF-INDUCTANCE: 0.59nH
- CONTACT RESISTANCE: <40 m $\Omega$
- ESTIMATED CONTACT LIFE: 500,000 cycles
- COMPRESSION SPRING PROBES: heat-treated BeCu with 30 $\mu$  [0.75 $\mu$ ] min. Au per Mil-G-45204 over 30 $\mu$  [0.75 $\mu$ ] min. Ni per SAE AMS-QQ-N-290
- CONTACT FORCE : 6g per contact on 0.20-0.29mm pitch  
: 15g per contact on 0.30-0.35mm pitch  
: 16g per contact on 0.40-0.45mm pitch  
: 25g per contact on 0.50-0.75mm pitch  
: 25g per contact on 0.80mm pitch or larger
- OPERATING TEMPERATURE: -55°C [-67°F] min. to 150°C [302°F] max.
- ALL HARDWARE: Stainless Steel

## MOUNTING CONSIDERATIONS

- See "PCB FOOTPRINT TOP VIEW" for requirements
- NOTE: Sockets must be handled with care when mounting or removing sockets to/from PCB
- TEST PCB MINIMUM DIAMETER "G" : 0.025 [0.64] (large probe 0.80mm pitch and larger)  
: 0.015 [0.38] (small probe 0.50-0.75mm pitch)  
: 0.012 [0.31] (small probe 0.40-0.45mm pitch)  
: 0.009 [0.23] (small probe 0.30-0.35mm pitch)  
: 0.004 [0.10] (small probe 0.20-0.20mm pitch)
- TEST PCB DIAMETER SPRING PROBE PAD PLATING: 30 $\mu$  [0.75 $\mu$ ] min. Au per MIL-G-45204 over 30 $\mu$  [0.75 $\mu$ ] min. Ni per SEA AMS-QQ-N-290. Pad must be the same height as top surface of PCB. Please refer to the Custom Socket Drawing supplied by Aries after receipt of your order for your specific application.

## ORDERING INFORMATION

Consult Factory

## CLEANING, HANDLING, MOUNTING & PROBE REPLACEMENT INFO

A detailed device drawing must be sent to Aries to quote and design a socket.

See Data Sheet for...

### CSP Sockets

**23016** Hybrid Socket

**23021**  $\mu$ BGA up to 6.5mm

**23017**  $\mu$ BGA up to 13mm

**23018**  $\mu$ BGA up to 27mm

**23018-APP** w/Adj Pressure Pad

**23019**  $\mu$ BGA up to 40mm

**23020**  $\mu$ BGA up to 55mm

**23023** Optical Failure Analysis

### RF Sockets

**24013** RF up to 6.5mm

**24008** RF up to 13mm

**24009** RF up to 27mm

**24009-APP** w/Adj Pressure Pad

**24011** RF up to 40mm

**24010** RF Machined Socket

**23022** Kelvin Test Socket



**ARIES**  
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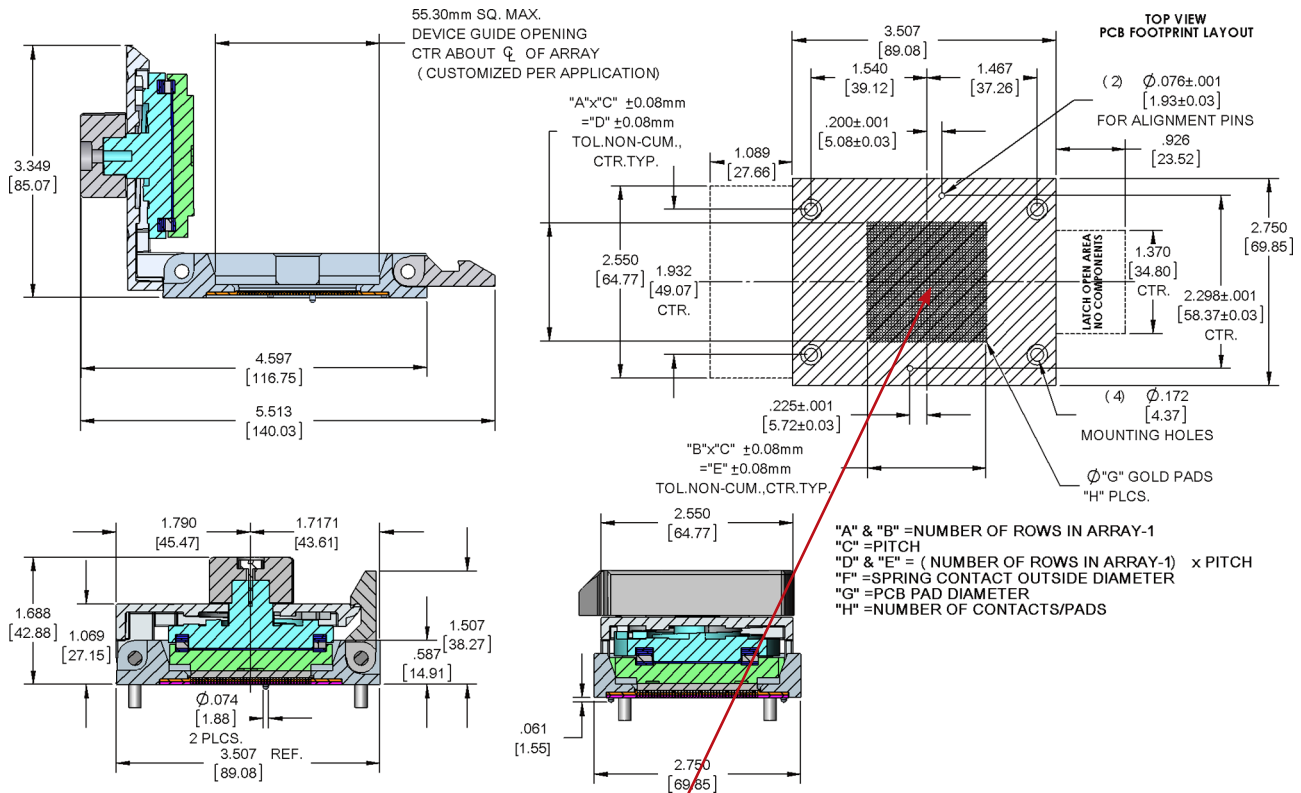
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**Rev. 1.6**

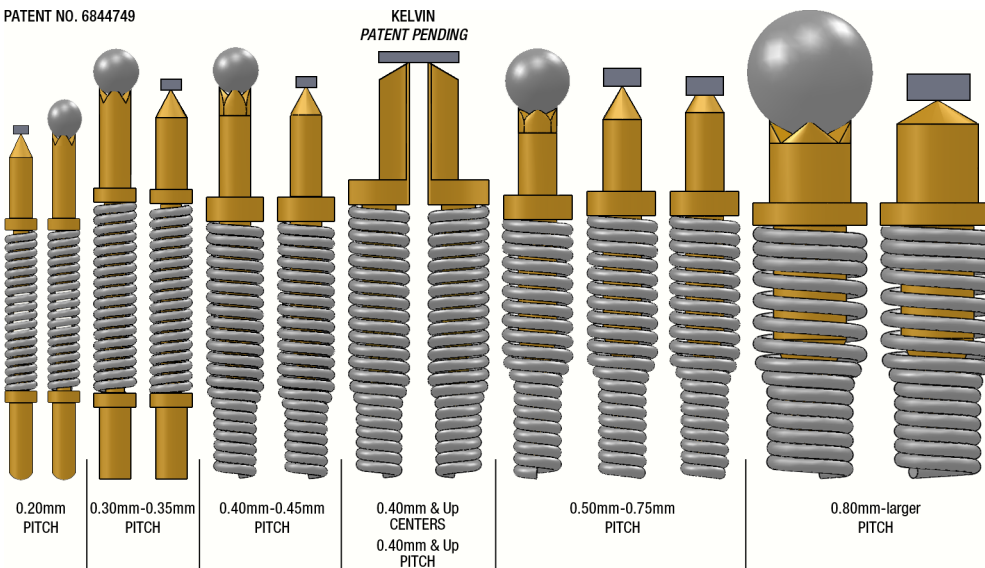


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PATENT NO. 6844749

KELVIN  
PATENT PENDING



SPRING PROBES

ALL DIMENSIONS: INCHES [MILLI-METERS]

ALL TOLERANCES: ±0.005 [0.13]  
UNLESS OTHERWISE SPECIFIED

CUSTOMIZATION: In addition to the standard products shown on this page, Aries specializes in custom design and production. Special materials, platings, sizes, and configurations can be furnished, depending on the quantity. NOTE: Aries reserves the right to change product general specifications without notice.



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