High-Frequency Center Probe Test Socket for Devices up to 13mm 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, µBGA, 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.
- Socket is easily mounted and removed to & from the PCB 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 13mm or smaller, by using machined (for small quantities) or custom molded (for large quantities) pressure pads and interposers.
- Pressure pad compression spring provides proper force against device and allows for height variations in device thickness.
- 4-point crown insures scrub on solder balls, and raised tip probe provides scrub on pads.
- Signal path during test only 0.077 [1.96].

ORDERING INFORMATION

Consult Factory

CLEANING, HANDLING, MOUNTING & PROBE REPLACEMENT INFO

GENERAL SPECIFICATIONS

- 1dB BANDWIDTH: 18.5 GHz, <3dB to 39.7 GHz (0.50mm pitch)
- PIN INDUCTANCE: 0.59nH (0.50mm pitch)
- MUTUAL CAPACITANCE: 0.12pF
- VSWR: <2:1 to 38Ghz
- CONTACT RESISTANCE: <40 mΩ
- COMPRESSION SPRING PROBES: heat-treated BeCu
- COMPRESSION SPRING PROBE PLATING: 30µ [0.75µ] min. Au per MIL-G-45204 over 30µ [0.75µ] min. Ni per SAE AMS-QQ-N-290
- ESTIMATED CONTACT LIFE: 500,000 cycles minimum
- 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°C] max.
- MOLDED SOCKET COMPONENTS: UL 94V-0 Ultem

MOUNTING CONSIDERATIONS

- See "PCB FOOTPRINT TOP VIEW" for requirements
- REQUIRES: four #2-56 Screws and PEM nuts for mounting (not supplied) Mounting holes size shown may differ depending on PEM nut selected
- NOTE: Sockets must be handled with care when mounting or removing sockets to/from PCB to avoid damaging spring contacts
- 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)

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 µBGA up to 6.5mm
23017 µBGA up to 13mm
23018 µBGA up to 27mm
23018-APP w/Adj Pressure Pad
23019 µBGA up to 40mm
23020 µBGA up to 55mm
23023 Optical Failure Analysis

RF Sockets

24013 RF up to 6.5mm
24009 RF up to 27mm
24009-APP w/Adj Pressure Pad
24011 RF up to 40mm
24012 RF up to 55mm
24010 RF Machined Socket
23022 Kelvin Test Socket

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RoHS Compliant

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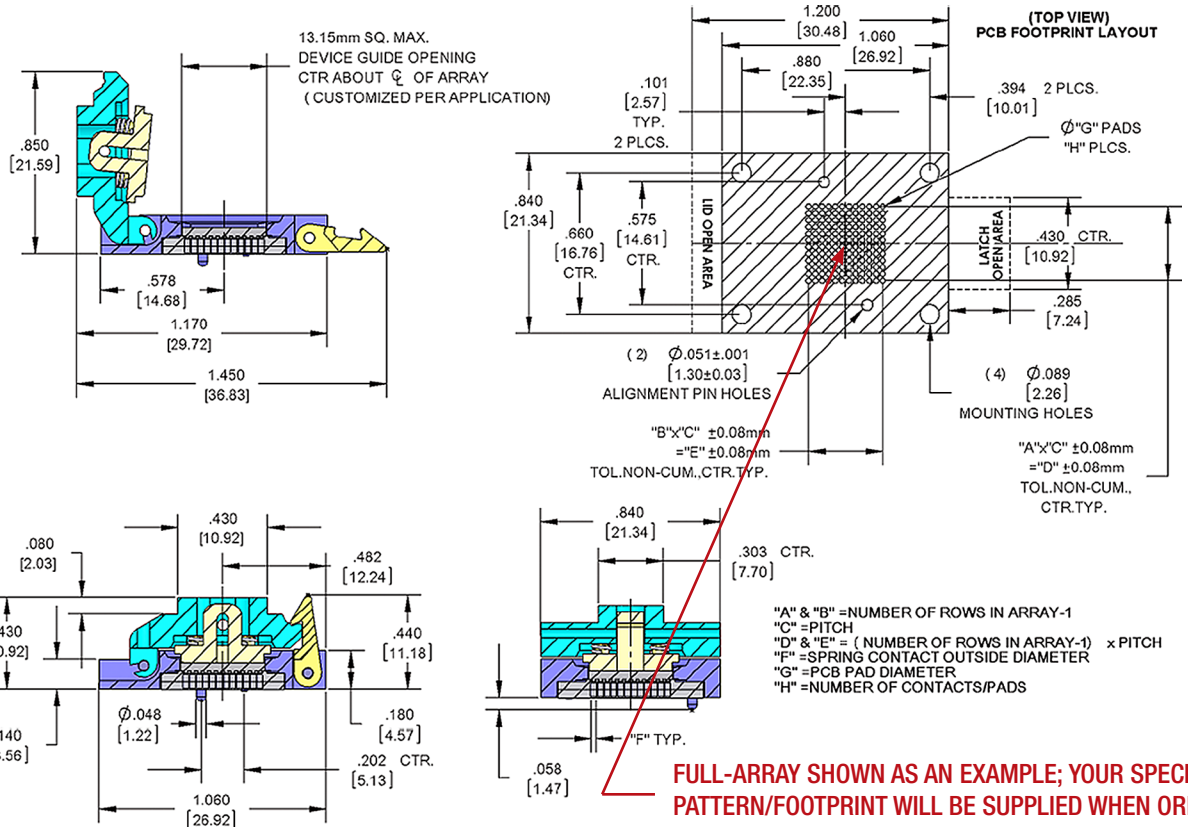
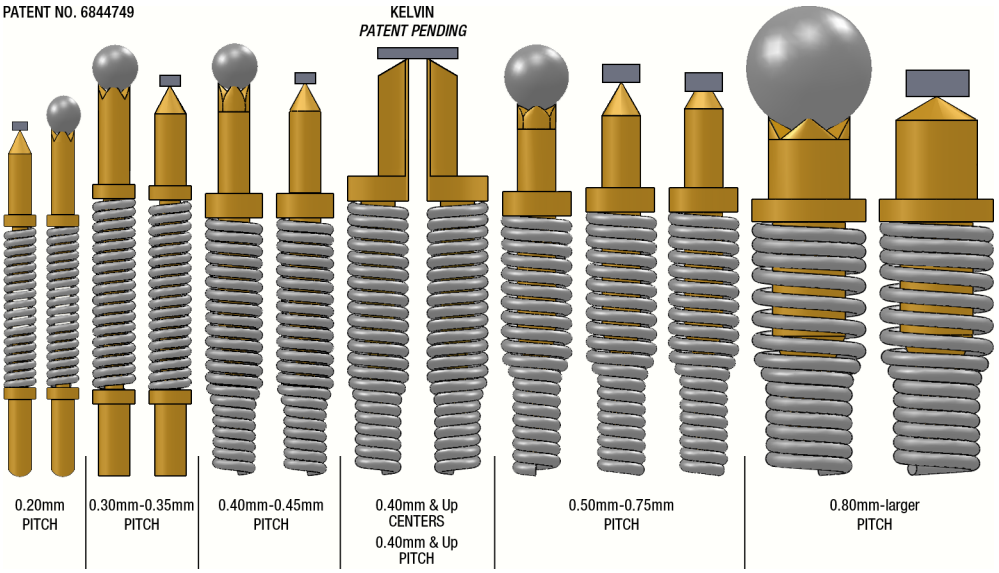
- TEST PCB DIAMETER SPRING PROBE PAD PLATING: 30µ [0.75µ] min. Au per MIL-G-45204 over 30µ [0.75µ] min. Ni per SEA AMS-QQ-N-290. Pad must be the same height as top surface of PCB. Please refer to the Custom Socket Drawing supplied by Aries after receipt of your order for your specific application.



FULL-ARRAY SHOWN AS AN EXAMPLE; YOUR SPECIFIC DEVICE PATTERN/FOOTPRINT WILL BE SUPPLIED WHEN ORDERED.



SPRING PROBES

ALL DIMENSIONS: INCHES [MILLIMETERS]

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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