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DaVinci Micro Test Socket

Impedance Controlled Coaxial Solution for High Speed Test

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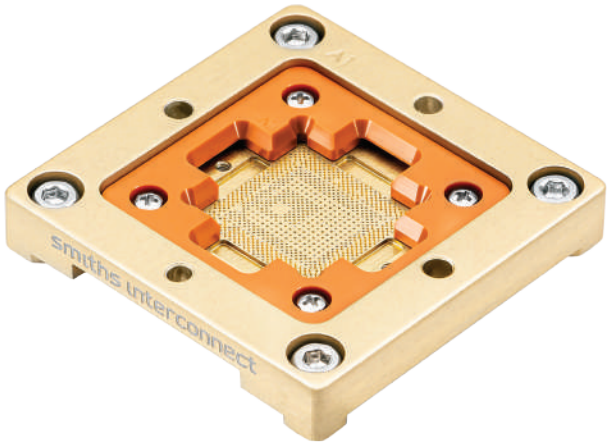


Mobile devices such as cell phones, tablets and car infotainment systems have the most sophisticated System-on-Chip (SoCs) ever produced. In fact, these SoCs must combine CPU, GPU, AI engine, camera processor, memory, and 5G modem in the smallest possible form factor.

The request for increased functionality in the smallest possible footprint has led to a reduction of IC pitch below 500 µm. At the same time, increased performances in SoCs affect pin-to-pin noise or what is commonly called crosstalk during testing. DaVinci Micro fully shielded signal path negates the effects of cross-talk during testing, allowing an immediate yield enhancement over non-DaVinci products.

DaVinci Micro inherits the best features from the DaVinci 56 product, whilst following the meticulous spring probe design criteria and tight tolerance manufacturing methodology used for our Volta product.

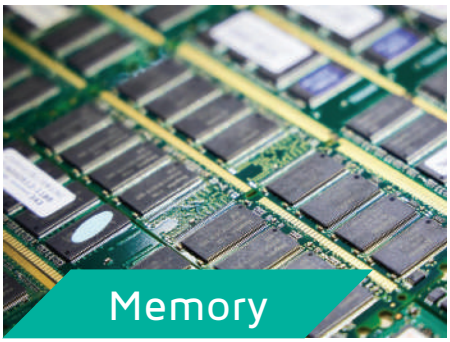
Product Features

- Spring probe technology using homogenous alloy
- Short signal path 2.85 mm test height
- Impedance tuning, can match system or defined as needed, 40, 45, 50 Ohm impedance (single ended)
- Cross-talk suppression IM housing
- Tri-temp socket design to support -40 °C to +125 °C
- Consistent stable contact resistance 120 mΩ (Ave)
- Designed for manual test, bench test, and HVM Production Test using the same socket
- Solution for BGA, LGA, QFN, DFN, and other variants, ideal for minimum pitch 0.35 mm
- Floating Base or Hi Low configuration to protect spring probes during use

Benefits

- Tested to 500K insertions
- Short contact path for excellent DC performance
- RF bandwidth up to 30 GHz @ -1 dB IL
- Reduction in pin-to-pin noise (cross-talk)
- Precision-machined socket housing ensures robust mechanical performance
- Field repairable, replace a single probe or full array without the need for additional training
- Patented insulated metal socket housing for optimal signal integrity performance and strength
- Match existing PCB socket footprint and test hardware led to cost saving for customers

End Product Markets



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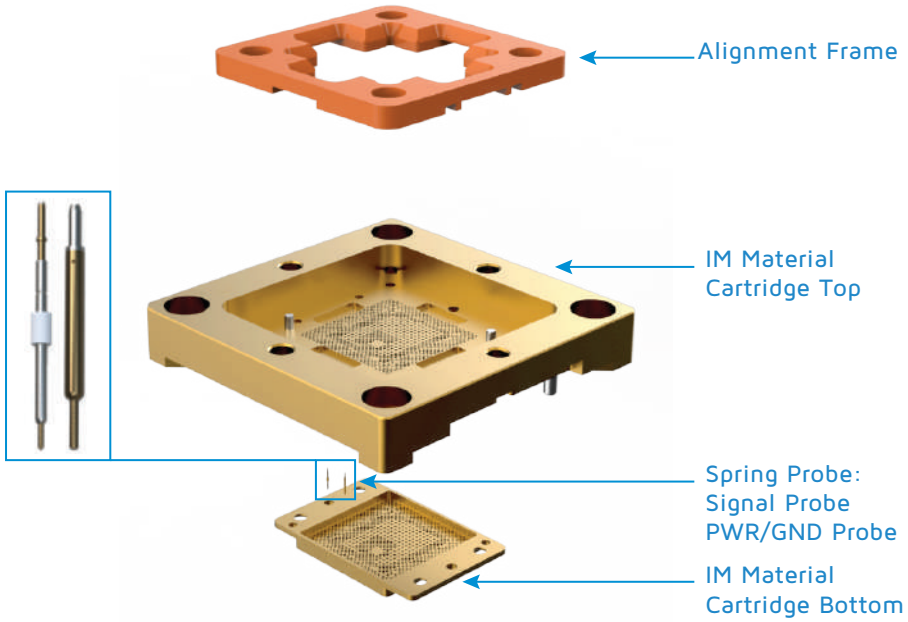
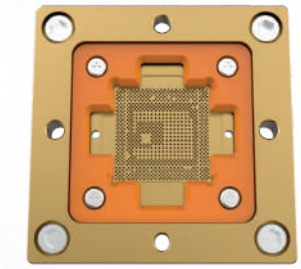
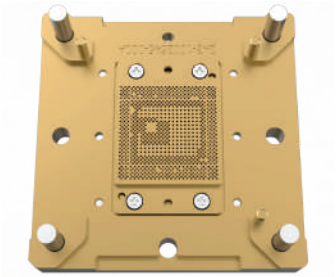
Product Structure



Top View



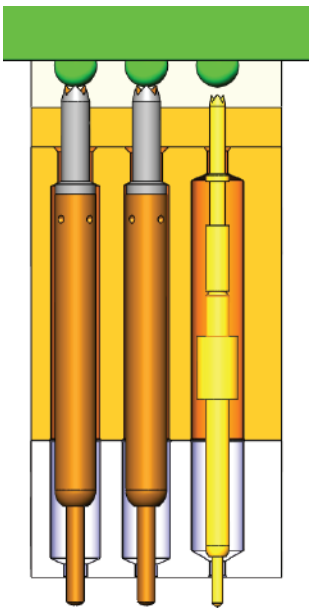
Bottom View



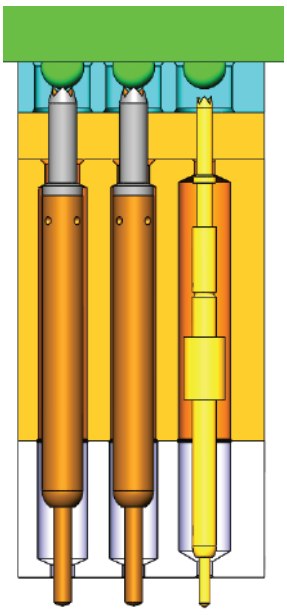
Product Specifications

Mechanical Properties:

- Typical Application: BGA, LGA, QFN, DFN, QFP
- Minimum Pitch: 0.35 mm
- 851-0023043-H00 = 40~45 Ohm impedance
- 851-0023043-HG01 = 50 Ohm impedance
- Probe Compliance: 0.4 mm
- Contact Force: 10 Grams @ 0.40 mm (recommended travel)
- Contact Type: 4-point crown
- Top Plunger: HG Alloy/ Au Plated
- Operating Temperature: -55 °C ~ 120 °C
- Socket Material: IM002
- Contact Life: Tested to 500K



Hi-Low Configuration



Floating Base Configuration

Electrical Properties

- Contact Resistance: < 150 mΩ
- Current Carrying Capacity: Up to 1.25 Amps
- Insertion Loss (GSG): 31 GHz @ -1 dB
- Return Loss (GSG): 40 GHz @ -10 dB
- Cross Talk: 40 Ghz @ -35 dB

Worldwide Support

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