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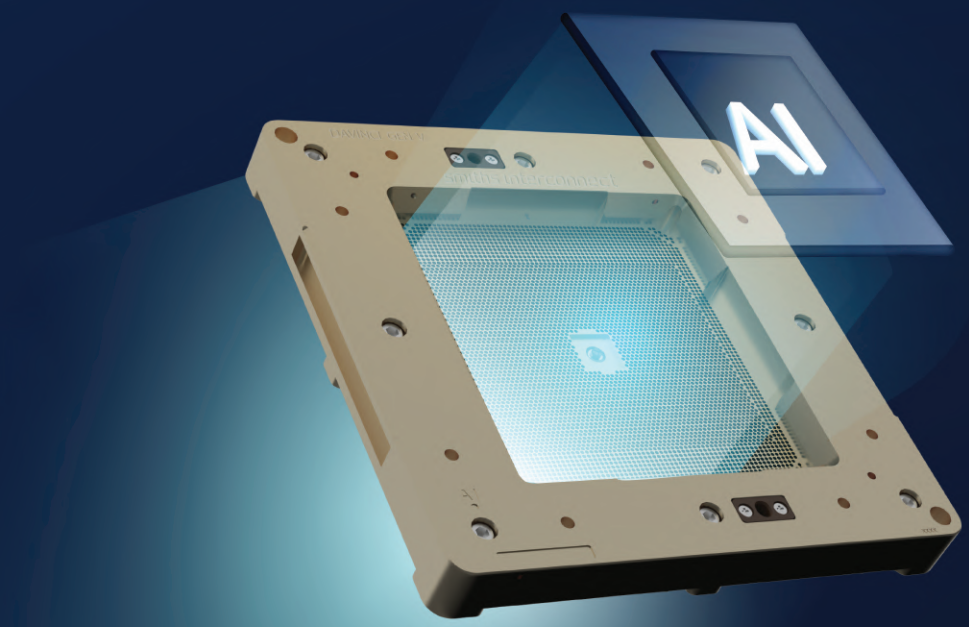
DaVinci Gen V Test Socket

Enabling Reliable Testing at 224 Gbps with Unmatched Signal Integrity Performance



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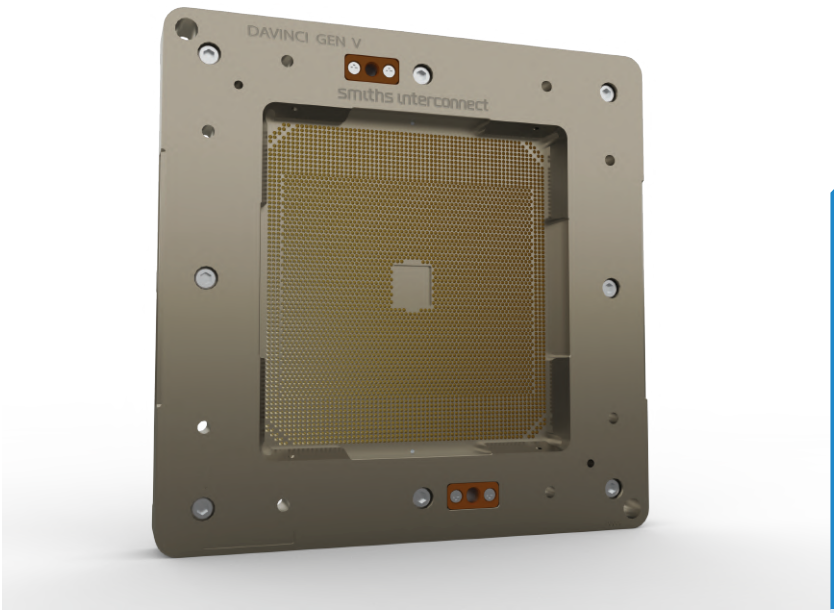


The DaVinci Gen V's 5th-generation coaxial design redefines high-speed testing. Its precision impedance tuning ensures flawless system matching

The next generation of high-performance semiconductors—from advanced Consumer SoCs and GPUs to AI Accelerators and Data Center processors—demands unprecedented bandwidth and speed. Yet as data rates climb, ensuring signal integrity during testing becomes exponentially more difficult. Even slight impedance mismatches or signal degradation can trigger false failures, compromise yields, and delay critical product launches.

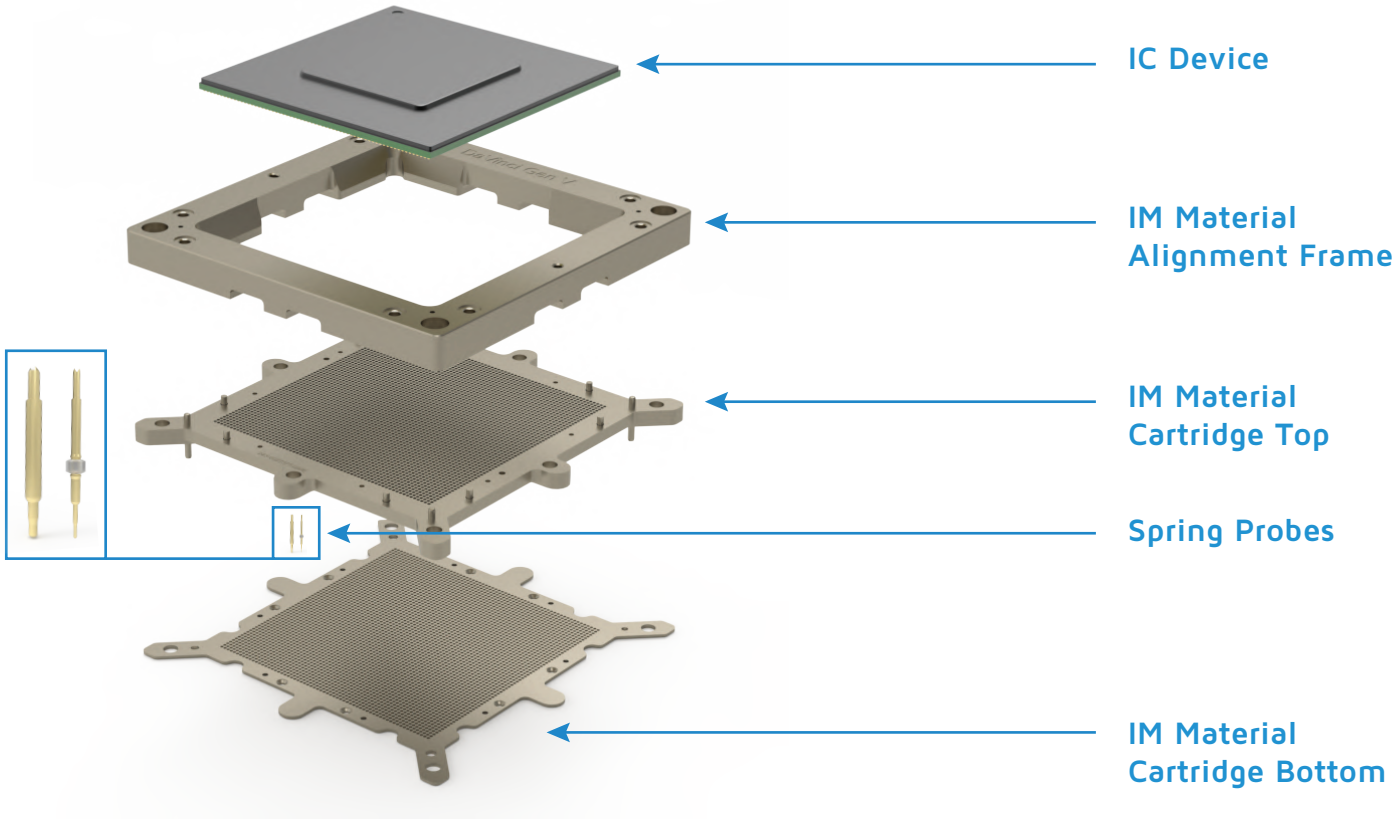
Engineered to overcome these challenges, the DaVinci Gen V coaxial test socket provides an out-of-box solution for full functional testing of cutting-edge ASICs. Its precision design guarantees unmatched signal integrity performance, eliminating measurement errors while delivering lab-grade accuracy and repeatability in production environments.

By enabling reliable validation of high-bandwidth devices, the DaVinci Gen V accelerates development cycles, safeguards yields, and ensures robust performance in most demanding applications.

End Product Markets

- Consumer SoCs
- Consumer GPUs
- Consumer CPUs
- Data Center CPUs
- Data Center GPUs
- Data Center DPUs
- AI Accelerators
- AI ASICs
- Network Switches
- FPGA SerDes 224
- ADAS ASICs
- High-Performance Computing
- Tensor Processors
- HBM Interfaces
- Co-Packaged Optics
- EPIX Products

Product Structure



Product Features

- Solution for BGA, LGA and other variants
- Spring probe technology using homogeneous alloy with gold plated for better grounding
- RF Bandwidth > 84 GHz @ -1dB IL
- Short signal path 4.90 mm test height
- Impedance tuned to match system
- Consistent stable contact resistance 55 mΩ (Avg.)
- Hi-Coplanarity accommodation
- Tri-Temp socket design to support -55 °C to +150 °C
- Designed for manual test, bench test, and HVM production test using the same socket
- New Manufacturing process to top and bottom cartridge

Benefits

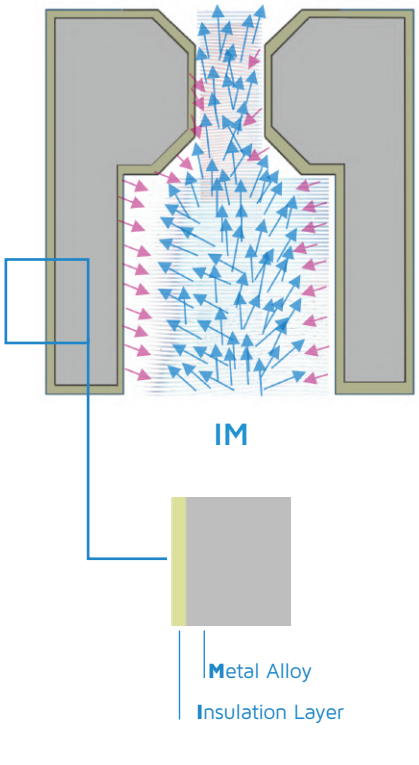
- Design adaptation to meet requirement
- Long contact life, tested to 500K insertions
- Impedance can match system or defined as needed
- Excellent DC performance
- Patented Insulated Metal socket housing for optimal signal integrity performance and strength
- Precision-machined socket housing ensures robust mechanical performance
- Field repairable, replace a single probe or full array
- Cleaning can be done while the system is running, using a cleaning surrogate
- Match existing PCB socket footprint and test hardware lead to cost saving for customers
- Shorter delivery time and improved overall costs of ownership

Technical Characteristics

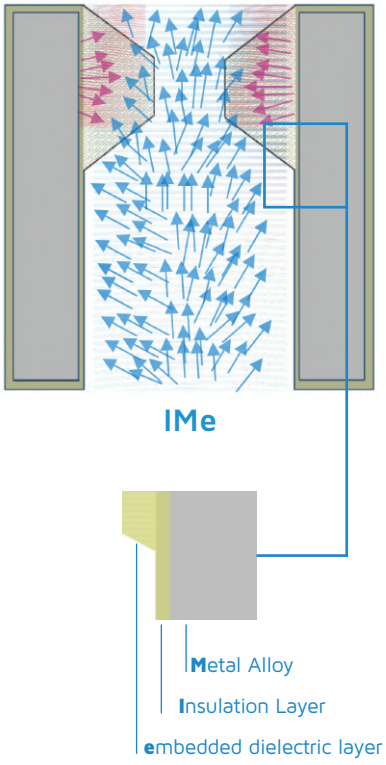
	DaVinci 45G		DaVinci 56	DaVinci 112	DaVinci Gen V
Mechanical & Environmental					
Minimum Pitch	>0.7mm	0.65mm	0.8mm*	0.8mm*	0.8mm*
Compliance / Travel	0.50mm	0.40mm	0.50mm	0.8mm	0.85mm
Operating Temperature	-55˚ to +125˚C		-55˚ to +125˚C	-55˚ to +125˚C	-55˚ to +150˚C
Life Span	500,000 cycles		500,000 cycles	500,000 cycles	500,000 cycles
Electrical					
Loop Inductance	0.71 nH		0.57 nH	1.02 nH	0.95 nH
Mutual Capacitance	0.73 pF		0.68 pF	0.49 pF	0.40 pF
Contact Resistance	80 mΩ		<80 mΩ	<80 mΩ	<60 mΩ
Current Carrying Capacity	3.0 A		3.0 A	3.7 A	3.7 A
Bandwidth (-1dB)	45 GHz / 26 Gbps		67 GHz / 56 Gbps	67 GHz / 112 Gbps	67 GHz / 224 Gbps

IMe Technology

- DaVinci patented IM coating has been a fundamental technology component enabling exceptional performance for final test applications.
- IM coating uses no dyes, it is the process of the coating adhering to the base material that creates the signature "gold" color of the product.
- Our unique IM process provides exceptional electrical insulation and is key to our ability to impedance match the DUT system.
- It provides exceptional robustness for socket housings, ensuring reliability in demanding production test environments.
- IMe is the only technology on the market that can provide a base insulation layer on top of the metal alloy, while also allowing for a dielectric coating on the surface of IM.
- This technology establishes the foundation to an advanced coaxial signal path in the future applications—a capability unmatched by spring probe-based solution on the market.



IM coating is a dense insulation layer on the base material.



IMe technology creates a dense insulation layer on which we can embed a dielectric layer on top of the IM.