

Vert!™ Product Overview

M-VERT!™ Multi-DUT Vertical Probe Card Solution

M-Vert!™ Product Overview provides a brief description and general probe card specifications.

Vertical Probe Cards

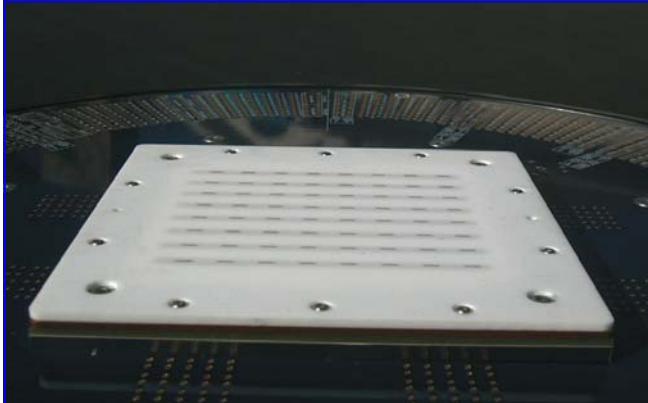
As the IC market continues to grow and die sizes continue to shrink, the test market continues to search for ways to economically test these devices. Since increasing the number of DUT's is one of the best solutions, multi-DUT vertical probe cards are becoming the choice for many test floors.

Overview

M-Vert!™ is a non-wired vertical probe card that is designed and fabricated with the customer in mind. The M-Vert!™ technology allows ProbeLogic the ability to provide a single 'turn-key' probe card solution with lower COO advantages that semiconductor test floors are requesting.

ProbeLogic has developed a unique approach to probing multi-DUT devices in configurations up to X64 DUTs. Superior probe contact and a "no-float" probe approach provides uniform contact force and electrical characteristics between the pad and the probe card.

[M-Vert!™ Probe Head Designed for Efficient X64 DUT Testing](#)



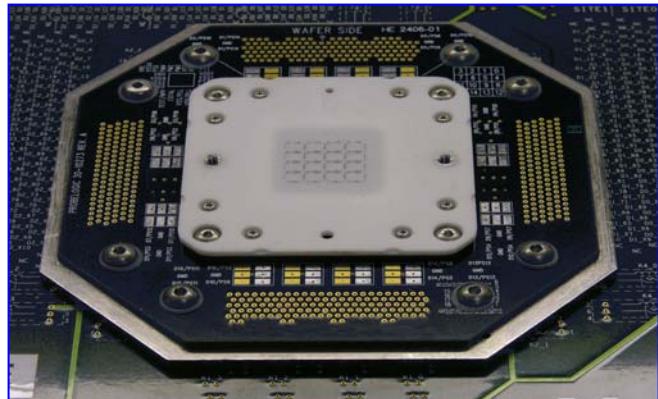
The custom designed MLO space transformer and probe head are engineered so that there is no need for exercising, fine alignment, planarity adjustments, or re-plating of the space transformer, as seen with other vertical technologies.

Space Transformer

Utilizing a custom MLO Space Transformer Substrate (Interposer) that is re-flowed onto the tester PCB, a 50 ohm electrical path from tester to probe is achieved, thereby eliminating cross-talk, capacitance, and inductance issues typical of Wired Space Technology.

ProbeLogic engineers also designed the tester PCB portion to be modular and capable of reusing for a family of devices to further reduce COO.

[M-Vert!™ X16 DUT Probe Head and Space Transformer Assembly](#)



The tester side utilizes a proprietary handle assembly and cover for quick removal and probe card changeover from the test set up.



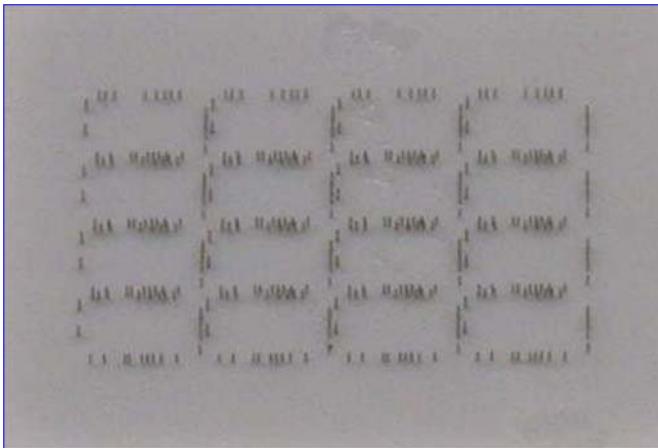
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Manufacture and Assembly

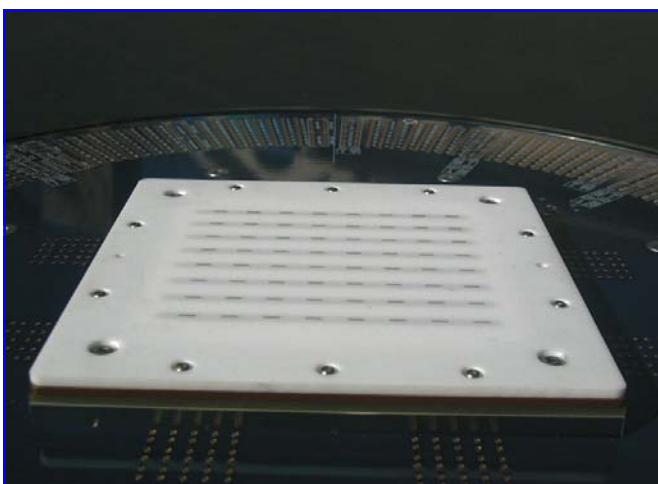
As a result of our first-rate probe contacts and strict manufacturing guidelines, M-Vert!™ is a robust solution that provides solid electrical connections and performance. Our unique assembly process maintains a tight planarity specification of +/- 1.5 mils and allows for modular probe heads. A tighter planarity specification of +/- 1.0 mils is available for non-modular applications. Either design produces an accurate gram force across the array, eliminating the need for excessive overdrive as seen with other vertical technologies.

[M-Vert!™ Probe Contact View](#)



In addition to maintaining a tight planarity window and a remarkably consistent gram force, our unique assembly process allows ProbeLogic to adhere to a tight alignment specification of +/- 0.5 mils, while not sacrificing electrical performance.

[M-Vert!™ Probe Head View](#)



M-Vert!™ STANDARD SPECIFICATIONS

Minimum Pitch Specifications:

Wire Diameter	Linear Pitch	Grid/Array Pitch
4 mils	135 um	180 um
3 mils	110 um	160 um

Alignment +/- 12.5 um

Planarity +/- 38u, or +/- 25u*

BCF (Contact Force 4 mil probe) 3.5 g/mil of OD

BCF (Contact Force 3 mil probe) 2.0 g/mil of OD

Maximum Current:

Wire Diameter	Probe Material	Current (A)
4 mils	P7	.6
4 mils	BeCu	2.0
3 mils	P7	.4
3 mils	BeCu	1.4

Probe Tip Options Flat, Pointed or Wedge

Probe Tip Depth (min) 250 mils (3mil probe)
 300 mils (4 mil probe)

Frequency 1-3 GHz**

*Planarity specifications are based on different assembly processes and create different end products. Please contact your technical sales representative to discuss the difference between matched sets and modular probe cards.

**Frequency is measured as bandwidth through the probe head. To gain a total understanding of the frequency that can be achieved, the PCB design, MLL/MLO substrate, and the entire test set up need to be taken into consideration to achieve higher test rates at the wafer level.

Note: These specifications are subject to change as the product develops. These are measurements taken and are minimums, but should not be taken as absolute since custom designs and specifications can be accommodated on a per device basis.

To see how ProbeLogic and M-Vert!™ can benefit your company, please contact your sales representative at:

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