

Cascade HF PROBEWEDGE

High-Frequency Wafer Probe

Overview

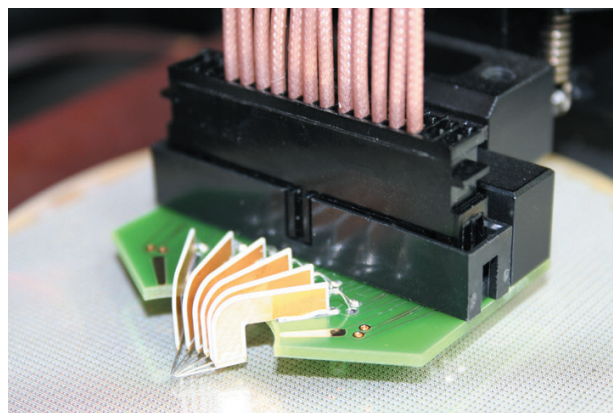
To give you the highest degree of application flexibility when performing functional on-wafer high-frequency tests, FormFactor offers the Cascade HF ProbeWedges, which use both RF contacts and DC blade needles. To ensure accurate and repeatable measurements, the overtravel of the DC blade needles has been matched with the touch down of the MEMS-machined IZI Probes®. The HF ProbeWedge is ideal for small pads down to 40 µm x 40 µm and pitches as small as 100 µm.

The variety of available configurations of the HF ProbeWedge ensures your application requirements are met every time. Mounted on a PCB board, the renowned IZI Probes can be combined with up to four DC probes on each side. For all differential measurement tasks, unique Dual IZI Probe is available as an HF ProbeWedge with a maximum of two DC probes on each side of the probe tip.

The unique design of the PCB board of the HF ProbeWedge and the housing of the IZI Probe ensure an optimum size of the ProbeWedge to fit onto any standard high frequency probe arm just like any other RF probes. This means that you will not need to make any unnecessary adjustments to the probe arm or the manipulator (e.g. ProbeHead™ PH110HF or PH250) itself on the platen.

Furthermore, our unique plug and play concept of DC cables and connectors for the HF ProbeWedge no longer requires any soldering of the cables to the ProbeWedge. They are easily plugged into the carrier (different sizes are available) and held firmly in place by a one-click holding mechanism that allows the cables to be easily removed at any time. This saves the operator time when changing between different measurement tasks and money because all cables can be reused.

All HF ProbeWedges can be used in shielded environments such as the ProbeShield® Operating Environment and any other standard HF probers. The PCB board on the HF ProbeWedge can be customized to ensure that any required integrated elements, such as a surface mounted device (SMD), can be incorporated into the design. Other customized solutions are available on request.



Features and Benefits

Ease of Use

- Fits all standard HF probe arms without any adjustments
- Can be used on a standard prober or in shielded environments
- Small carrier interface provides plug and play capabilities for all DC cables without soldering the cables to the ProbeWedge
- DC needles can be repaired individually

Flexibility

- Specially designed for DC-biasing with IZI Probe
- Easy and fast change-over between different test setups
- Differential measurements supported with Dual IZI Probe

Accuracy

- Utilizes design of MEMS-machined IZI Probes to ensure planar contact to the DUT at all times
- Independent contacts of the IZI Probe compensate for pad height differences up to 50 µm

➤ Mechanical Specifications*

Available Signal Configurations

One HF signal combined with 2 x 2 DC signals

	GS/SG	GSG
Frequency	Up to 10 GHz	Up to 50 GHz
Pitch	100 µm to 1250 µm	50 µm to 1250 µm (up to 40 GHz) 50 µm to 5000 µm (up to 50GHz)
Housing	Standard	38 µm (1.5 mil): others available upon request

One HF signal combined with 2 x 4 DC signals

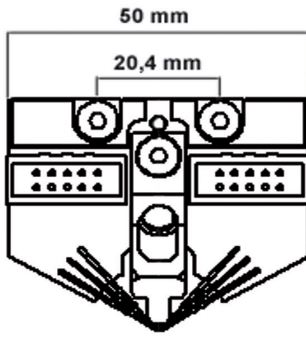
	GS/SG	GSG
Frequency	Up to 10 GHz	Ceramic, microstrip, metal
Pitch	100 µm to 1250 µm	50 µm to 1250 µm (up to 40 GHz) 50 µm to 5000 µm (up to 50 GHz)
Housing	Small	Small

Two HF signals combined with 2 x 2 DC signals

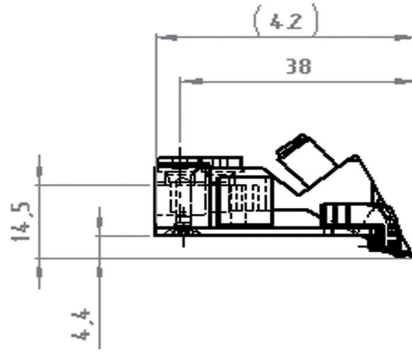
	GSGSG	GSSG/SGS
Frequency	Upto40GHz	Upto10GHz
Pitch (µm)	100, 125, 150, 200, 250 and 500 µm	100, 125, 150, 200, 250 and 500 µm
Housing	Standard	Standard
DC blades	Metal blades (simple DC) Ceramic blades (low capacitance and high isolation) Microstrip (low noise, low resistance) 50, Kelvin, triax	Metal blades (simple DC) Ceramic blades (low capacitance and high isolation) Microstrip (low noise, low resistance) 50, Kelvin, triax
DC needles	Tungsten (standard), Berillium-copper (option) Tip size: 35 µm to 40 µm (1.5 nil)	Tungsten (standard), Berillium-copper (option) Tip size: 35 µm to 40 µm (1.5 nil)
Operating temperatures	-60 °C to 125 °C	-60 °C to 125 °C

*Data, design and specification depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously.

➤ Physical Dimensions (measurements in mm)

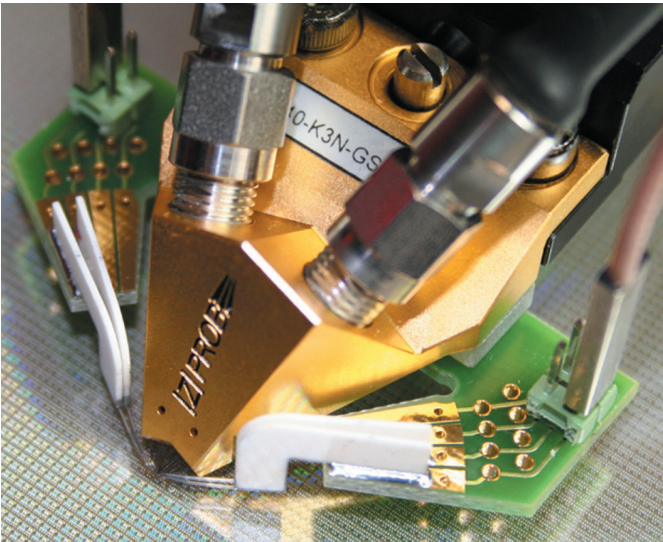


Top view

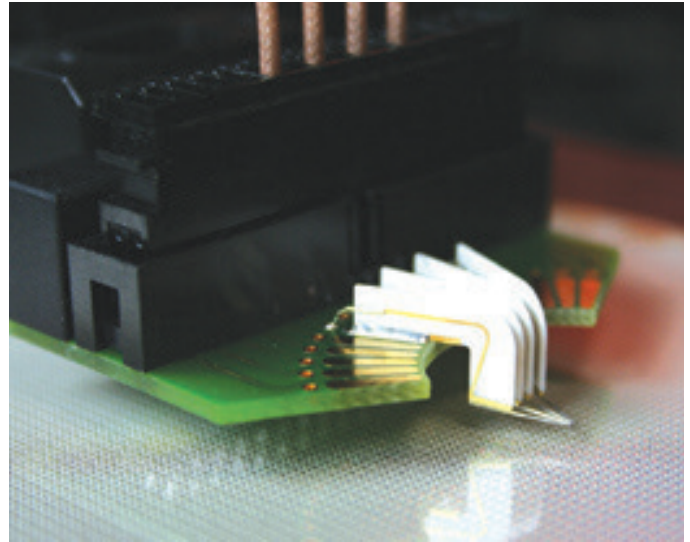


Side view

➤ Applications



HF ProbeWedge with IZI Probe GSG and three DC metal blades on each side.



Close-up of IZI Probe and DC needle tips as in above mentioned configuration.

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Corporate Headquarters

7005 Southfront Road
Livermore, CA 94551
Phone: 925-290-4000
www.formfactor.com