

Cascade

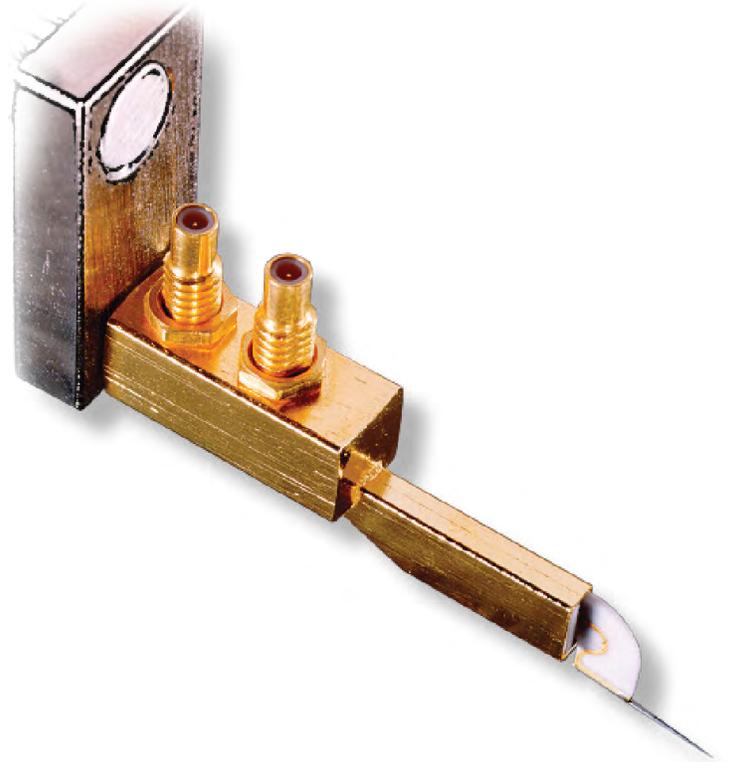
DCP-HTR

High-Performance DC Parametric Probe

000111100010

Overview

The DCP-HTR probe delivers fA-level measurement capability from -65°C to 300°C for advanced characterization and reliability testing. Its unique design offers superior guarding and shielding over-temperature, overcoming the high-temperature performance limitations of standard coaxial needles. For full-triaxial current/voltage over-temperature measurements, using triaxial cables, the DCP-HTR probe should be used with FormFactor's parametric probing systems with MicroChamber® and AttoGuard® technology. When used with MicroChamber, the DCP-HTR allows full utilization of semiconductor parametric test instruments. The optional probe tips with small diameter are ideal for probing pads as small as 30 µm x 30 µm.



Features / Benefits

Low-noise electrical performance	<ul style="list-style-type: none">• Ultra-low, fA-level current and fF-level capacitance measurements from -65°C to + 300°C
Microstrip probe tips	<ul style="list-style-type: none">• Guarantees fully-guarded measurements to fA and fF levels
Precision, industry-standard SSMC 50 Ω connectors	<ul style="list-style-type: none">• Individual connectors provide force-sense connection for quasi-Kelvin and CV measurements
Selection of probe tip diameters	<ul style="list-style-type: none">• Allows probing of different pad materials and sizes
Easily replaceable probe tips	<ul style="list-style-type: none">• Fast replacement of worn probes without the need for tools

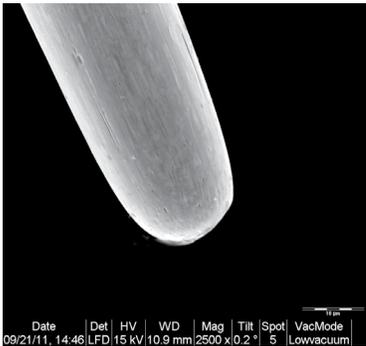
General Specifications

Breakdown voltage	>500 V
Isolation resistance	>1 x 10E ¹³ Ω
Frequency response (3 dB)	150 MHz
Mounted temperature range	-65°C to +300°C (above 250°C: 8 hours max operation)
Typical leakage and noise current	±10 fA at -65°C to 200°C, ±20 fA at 200°C to 300°C
Residual capacitance	<100 fF (probe tip in air at room temperature)
Characteristic impedance	50 Ω
Body material	Gold plated
Connector type	SSMC
Minimum pad size	30 μm x 30 μm (10 μm radius tips required)

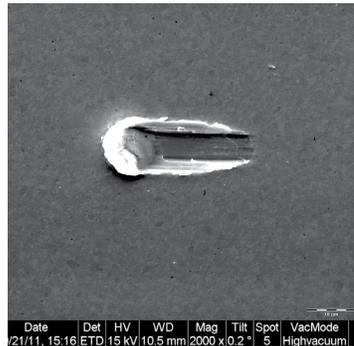
Tip Specifications

Tip material	Tungsten
Contact force	3 gram/25 μm
Scrub	Typically 2.5:1 skate ratio (25 μm overdrive = 10 μm skate)
MicroChamber compatible	Yes
AttoGuard compatible	Yes

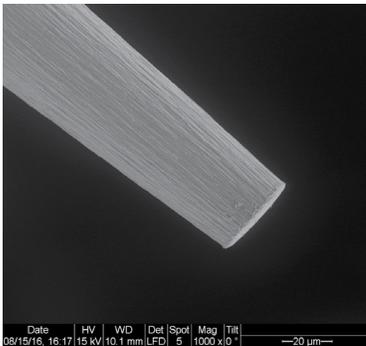
PN (10-PK)	TIP SHAPE	TIP Ø (μm)	TIP Ø TOL (μm)	Depth (in.)	BEAM ANGLE
154-001	Radius	19	± 3.8	0.358	7°
154-003		10	± 2.5		
154-329	Flat	38	± 5		



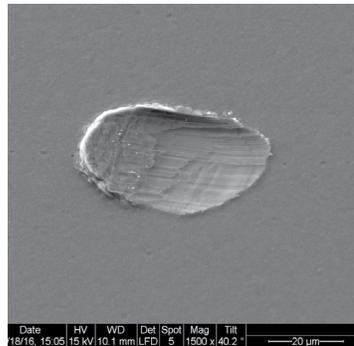
Radius Tip



154-001 19 μm



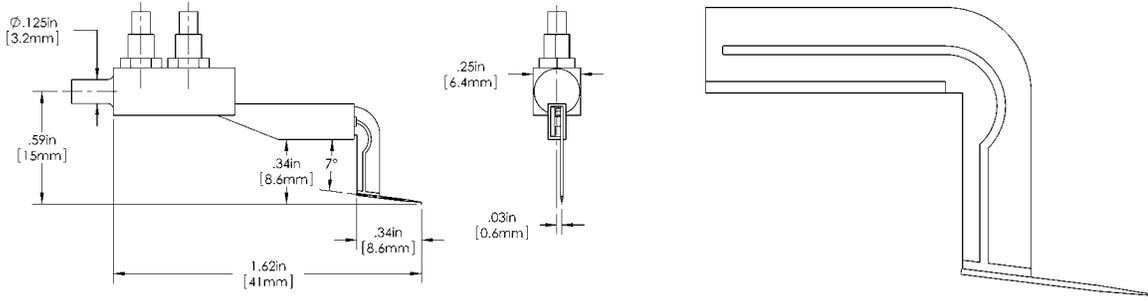
Flat Tip



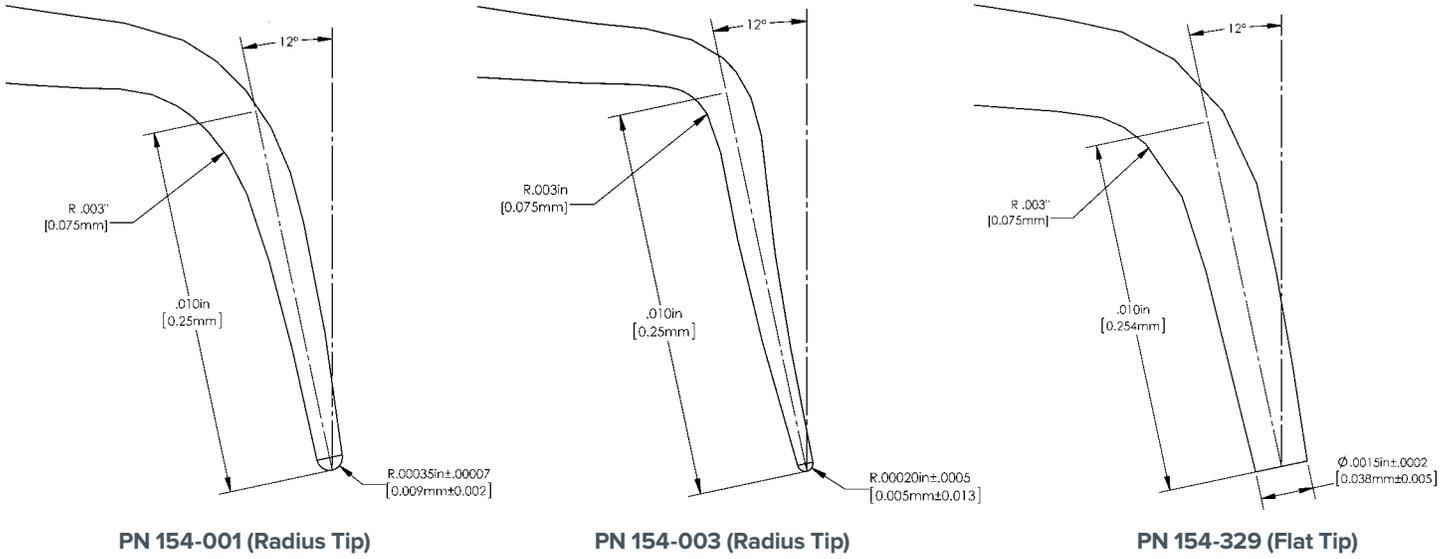
154-329 38 μm

Dimensions

DCP-HTR Probe Body



Tip Shape

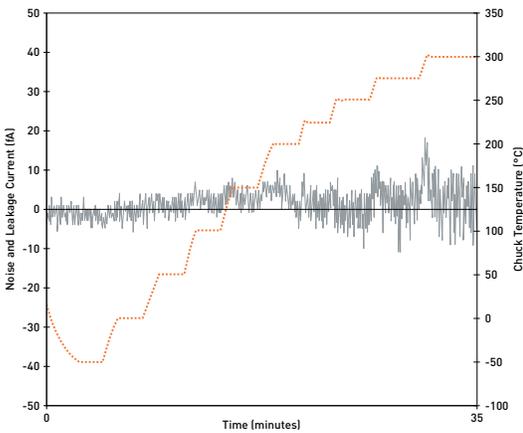


PN 154-001 (Radius Tip)

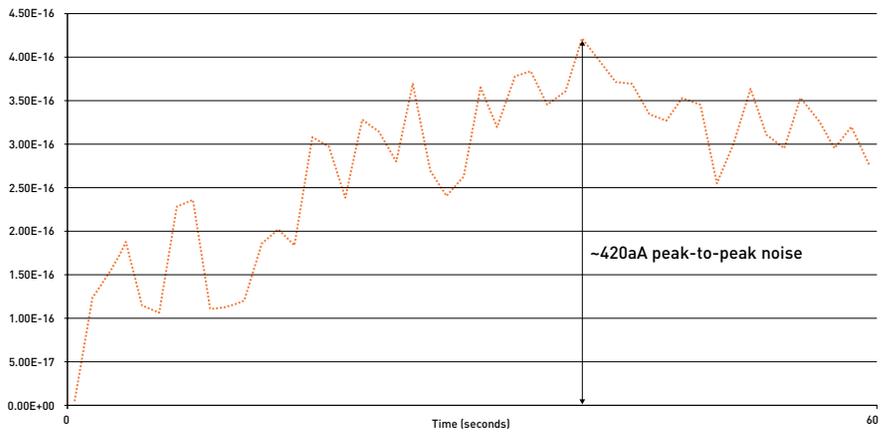
PN 154-003 (Radius Tip)

PN 154-329 (Flat Tip)

Dimensions



Typical DCP-HTR probe noise and leakage over temperature when used in conjunction with FormFactor probe station with MicroChamber and AttoGuard technology



Typical DCP-HTR probe noise and leakage at ambient when used in conjunction with FormFactor probe station with MicroChamber and AttoGuard technology

› Regulatory Compliance

CE certified, CB compliance tested, certified for US and Canada (cNRTLus).

› Available Options

Warranty*	Fifteen months from date of delivery or twelve months from date of installation
Service contracts	Single- and multi-year programs available to suit your needs

* See FormFactor's Terms and Conditions of Sale for more details.

› Ordering Information

PART NUMBER	DESCRIPTION
DCP-HTR	DCP-HTR DC probe holder
151-286	Thermally-stable probe arms for DCP-HTR (for MS-1 positioners, triax)
151-287	Thermally-stable probe arms for DCP-HTR (for DCM positioners, triax)
151-288	Thermally-stable probe arms for DCP-HTR (for DCM positioners, coax)
154-001	Replaceable probe tips, box of 10, radius tip, 19 µm diameter
154-003	Replaceable probe tips, box of 10, radius tip, 10 µm diameter
154-329	Replaceable probe tips, box of 10, flat tip, 38 µm diameter
138-020	Edge Sense, single blade ceramic needle for DCP-HTR probe body

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DCP-HTR-DS-0518

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