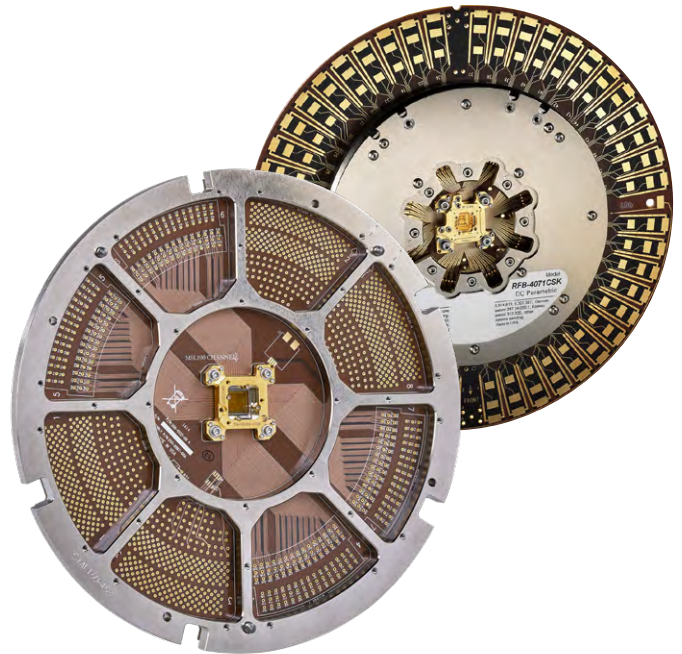


Parametric Series

PDC50 High-performance DC Parametric Pyramid Probe® Card

➤ Overview

FormFactor has developed its next-generation Parametric series Pyramid Probe cards as the higher-performance, lower-cost alternative to existing industry solutions. Designed to enable the accurate monitoring of the most advanced parametric test structures, the Parametric series Pyramid Probe card is compatible with all major parametric tester platforms. FormFactor's innovative Pyramid Plus™ manufacturing process ensures a substantially lower cost of ownership, while delivering superior signal integrity and faster settling time.



➤ Features / Benefits

Superior signal performance

- Traces guarded to probe tips with lowest leakage
- Guarded traces provide excellent measurement fidelity with low leakage (1 fA/V), enabling faster settling times while reducing unwanted crosstalk effects
- Consistent low contact resistance and low-inductance probe tips ensure accurate and repeatable high-speed digital and analog measurements
- Patented ground and power planes with bypass capacitors provide resonance-free stable power supplies directly to the multi-DUTs

Mechanical robustness

- MicroScrub® technology provides consistent low contact resistance and inductance on a variety of pad materials
- High-density photolithographically-defined contact probe tips are stable over lifetime of product.
- Low maintenance and permanent probe tip placement improve test cell uptime, reducing the cost of ownership compared to other probing technologies

Versatile and cost-effective

- Lower maintenance overhead with less cleaning and no need for probe tip alignment
- Field-replaceable cores feature fully integrated test-vendor identification capabilities

PDC50

> Parametric Test Support

Advantest	93k
Keithley	S600 Series
Keysight	4070 Series, 4080 Series
PDF.Solutions	pdFasTEST-F Series
Instrument Rack	Generic 4.5 in. probe card

> Electrical

Leakage	5 fA/V (Standard), 1 fA/V (Optional)
Contact resistance	0.1 to 0.2 Ω (Al pads), 0.005 to 0.010 Ω (Au pads)
Maximum current/tip	1 A (Au pads), 200 mA (Al pads and Cu pads)

> Signal Lines

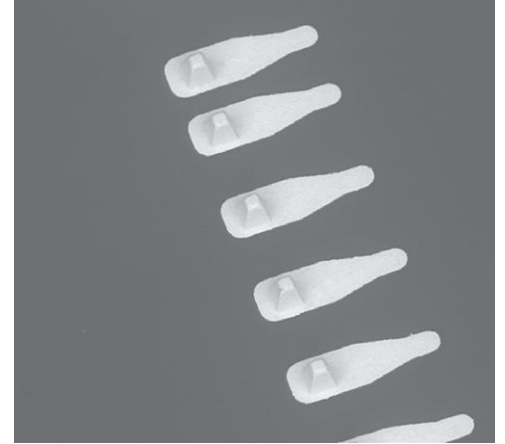
Line Type	DC
Membrane	Guarded
PCB	Guarded

> Components or Membrane

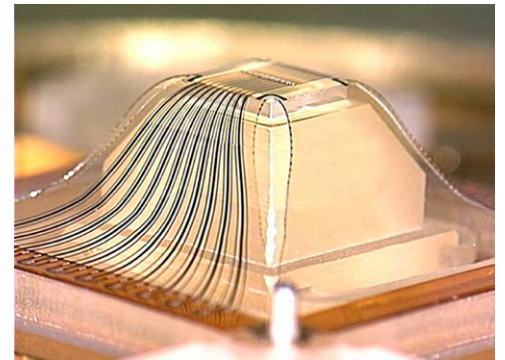
Package type	SMT
Sizes	01005, 0201, 0402, 0603, 0805

> Mechanical

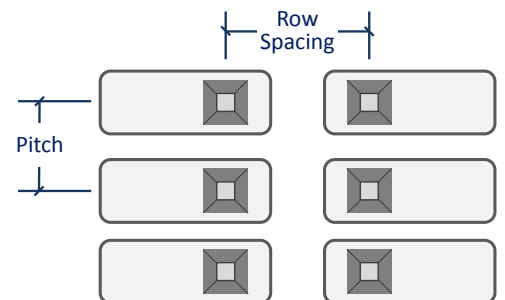
Minimum pad size (standard)	50 μm x 50 μm
Minimum pad size (options)	40 μm x 40 μm , 30 μm x 30 μm
Minimum pitch	42 μm pitch, 50 μm spacing
Dimensional stability for lifetime	10 μm for single temperature
Probe tip size Al, Cu (nominal)	12 μm
Probe tip size Low K/PoAA (nominal)	18 μm
Probe tip size Au (nominal)	25 μm
Probe tip material	Non-oxidizing nickel alloy
Temperature range	-50°C to 125°C
Pad and bump materials	Al, Cu, Au, TiN, Polysilicon
Spring rate	1.67 g/mil



Pyramid Probe tips feature a 12 μm x 12 μm contact area for probing 30 μm x 30 μm aluminum and copper pads.



Pyramid Probe membrane features guarded traces to the probe tip. The fixed probe tip placement eliminates manual planarity and alignment adjustments.



Pitch and spacing of Pyramid Probe card.

> Serial Number ID Options

Typical signal	No match
Optimized signal (custom layout)	± 1.5 ps (3 ps window)

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