

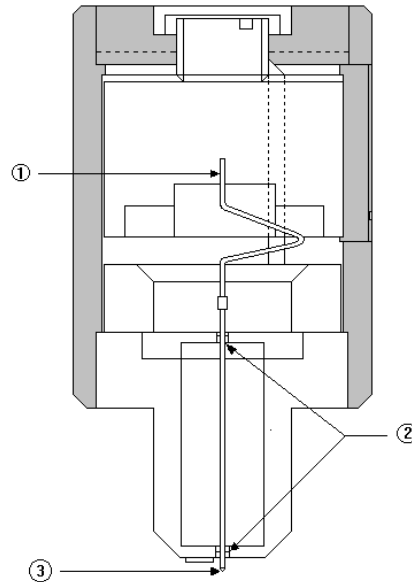
# PRECISION 4-POINT RESISTIVITY PROBE HEADS

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## 1. FEATURE

1. Anodized aluminum alloy upper and lower guides are jeweled.
2. Solid tungsten carbide needles for superior durability.
3. Teflon insulation gives minimum leakage
4. Loads checked by electronic force gauge
5. Spacing and tip radii optically checked for accuracy by interferometer.

## 2. STRUCTURE



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### 3. STANDARD SPECIFICATION

Probe Spacing	20,25,40,62.6 mils (0.5, 0.635, 1.0, 1.59 mm)
Tolerance	± 0.01 mm
Arrangements	Linear array.
Needles	Solid tungsten carbide ø0.40 mm 45°included angle, phosphor-bronze connecting ligament.
Other Material	50% osmium alloy tips available.
Radii	0.5 mil to 20 Mils (12.5~500μ)polished.
Planarity	Better than 1 mil (0.025).
Loads	10g min. to 250g max. per needle (not user adjustable).
LEADS	4-way cable Teflon insulated
LEAKAGE	$10^{13}$ ohms resistance between needles at 100volts

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### 4. PROPER CHOICE

For most of the probes used, the only really important distinction is the tip radius, which affects the penetration or contract pressure. The most commonly used probes are given names as type A, B, C, etc. The following is a summary of the most popular probe types:

Type	Tip R	Force	Spacing	Typical Applications
A	40 $\mu$	100g	1mm	Metal Film
B	100 $\mu$	100g	1mm	General Metal, Hi dose implant
C	200 $\mu$	100g	1mm	Medium Dose implant (Rs about 1000ohm/sq)
D	500 $\mu$	100g	1mm	Low dose implant Very thin metal film such as TiN, Ti, etc.
E	40 $\mu$	200g	1.591mm	Thick substrate : doped silicon wafers, diffusion
F	40 $\mu$	100g	0.635mm	Similar to A probe for smaller edge exclusion, Higher resolution measurement
G	100 $\mu$	100g	0.635mm	Similar to B probe for smaller edge exclusion, Higher resolution measurement
H	200 $\mu$	100g	0.635mm	Similar to C probe for smaller edge exclusion, Higher resolution measurement

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