NUNANO

A Nu approach to AFM Probes

PROBE MODEL: **SPARK 150 Pt**

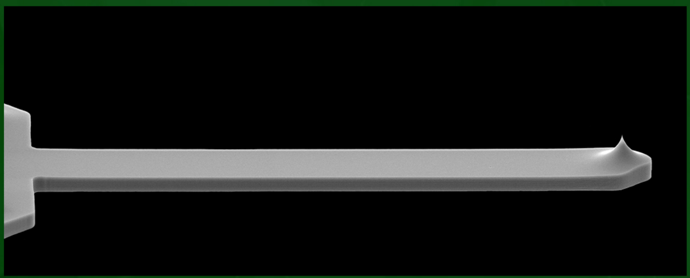
The **SPARK 150 Pt** is our conductive AFM probe for electrical characterisation in both contact and AC modes (non-contact/soft tapping), exhibiting exemplary dimensional tolerances and tip sharpness, characteristic of all our AFM probes.. It has a conductive platinum coating on both sides of the probe.

APPLICATIONS

Electrical AFM measurements in contact mode; e.g. conductive (CAFM) and piezoresponse force microscopy (PFM), and in AC mode; e.g. electrostatic force microscopy (EFM) and Kelvin probe force microscopy (KPFM).

Cantilever Specifications

Parameter	Nominal	Range
Spring constant (N/m)	18	5-25
Resonant frequency (kHz)	150	120-170
Shape	Rectangular	
Length (µm)	225	223-227
Width (µm)	30	28-32
Thickness (µm)	5.5	5.0-6.0
Material	Silicon (n-type, antimony)	
Resistivity (Ωcm)	0.02	0.015-0.025



Coatings

Frontside/Tip	5 nm Ti / 40 nm Pt
Backside/Reflective	5 nm Ti / 40 nm Pt

Tip Specifications

Parameter	Nominal	Range
Radius (nm)	18	< 30
Height (µm)	12	10-13
Set back (µm)	7.5	6.5-8.5
Shape	Conical	
Cone angle (°)	25	15-40
Material	Silicon (n-type, antimony)	
Resistivity (Ωcm)	0.02	0.015-0.025

Chip Specifications

Length (mm)	3.4
Width (mm)	1.6
Thickness (mm)	0.3
Cantilever anchor	Yes
Alignment grooves	No

NB. Nominal values for spring constants and resonant frequencies are calculated using well known formulae and based on expected probe dimensions. The ranges are calculated using measured dimensional variation.

Disclaimer

At NuNano we continually strive to develop and improve our products. Consequently, Nu Nano Ltd reserves the right to change specifications without notice.