

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

INFINITY PROBES



Infinity Probe sets the benchmark for the device characterization and modeling community

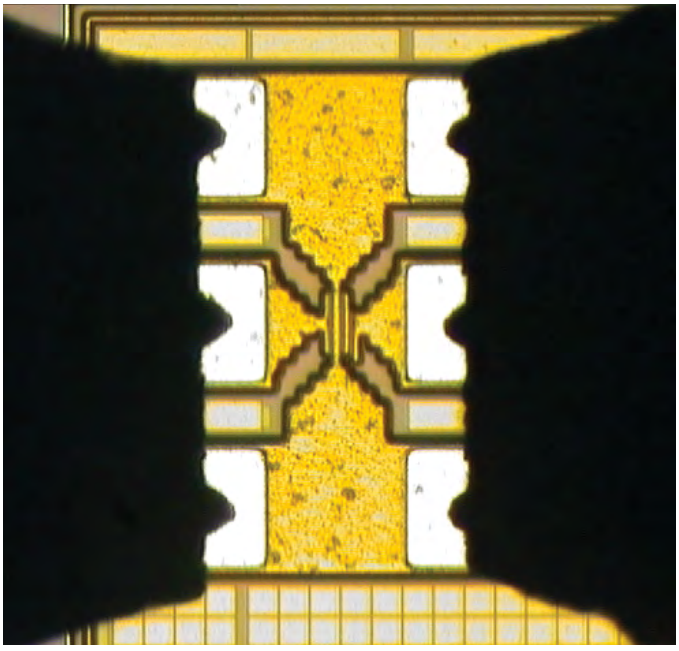
The Infinity probe is truly unique in its architecture that delivers industry leading performance. This revolutionary probe combines extremely low contact resistance on aluminum pads with unsurpassed RF measurement accuracy to provide highly reliable, repeatable measurements. The Infinity Probe reaches this new performance level through the combination of Cascade Microtech's proprietary thin-film technology and coaxial probe technology.

Features

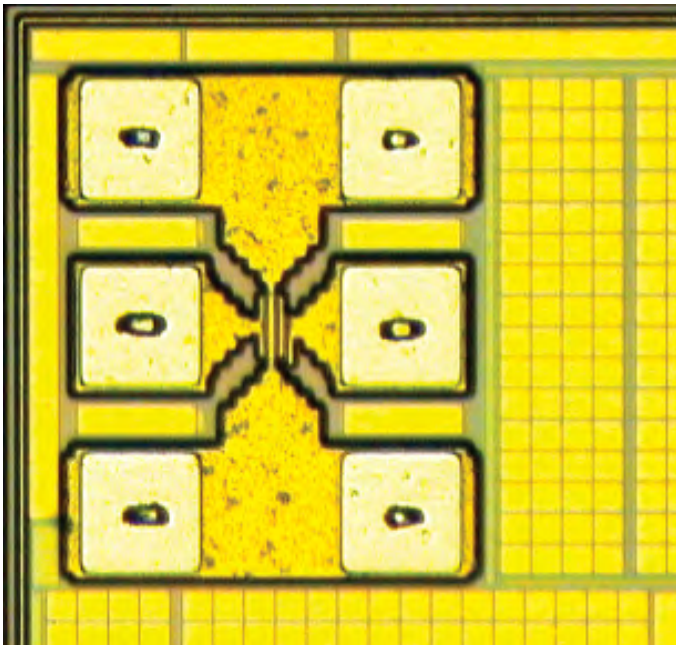
- Lithographic thin-film construction
- Excellent crosstalk characteristics
- Non-oxidizing nickel alloy tips
- Innovative force delivery mechanism
- 40 to 500 GHz versions
- GSG, SG/GS, GSGSG, GSSG, SGS configurations
- Probe pitch as narrow as 50 µm
- High-current version (2 A) available
- Typical lifetime > 250,000 touchdowns on Al pads

Advantages

- Superior field confinement reduces unwanted couplings to nearby devices and transmission modes
- Low, Stable contact resistance
- Superior measurement accuracy and repeatability
- Small scrub minimizes damage to aluminum pad
- Typical contact resistance: < 0.05 Ω on Al, < 0.02 Ω on Au
- Save valuable wafer space and reduce pad parasitics by being able to shrink pad geometries to 25 x 35 µm (best case)
- Reduction in modeling and design cycle time



Infinity Probe contacting Silicon RF device



Small contact marks enable contact to small pads

INFINITY PROBES

Contact configuration	GSG, SG, GS	Connector	GSGSG, GSSG, SGS
Frequency range for coaxial probes	I40 – DC to 40 GHz I50 – DC to 50 GHz I67 – DC to 67 GHz I110 – DC to 110 GHz (GSG)	I40 - 2.92 mm (f) I50 - 2.4 mm (f) I67 - 1.85 mm (f) I110 - 1 mm (f)	I40 I50 I67 I110
Typical insertion loss (GSG, GSGSG versions only)			
DC to 40 GHz 40 to 50 GHz 50 to 67 GHz 67 to 110 GHz	0.7 dB 0.8 dB 1.1 dB 1.4 dB		0.9 dB 0.9 dB 1.2 dB 1.6 dB
Typical return loss (GSG, GSGSG versions only)			
DC to 40 GHz 40 to 50 GHz 50 to 67 GHz 67 to 110 GHz	20 dB 17 dB 16 dB 14 dB		15 dB 15 dB 13 dB 11 dB
Crosstalk	-50 dB @ 50 GHz		Typically -40 dB @ 40 GHz; GSGSG 150 Typically -25 dB @ 40 GHz ; GSSG 150
Electrical repeatability	-60 dB		-60 dB
Probe pitch (25 µm increments)	50 to 250 µm pitch (i40, i50 and i67) 50 to 150 µm pitch (i110)		100 to 250 µm pitch -
Recommended overtravel	75 µm		75 µm
Maximum safe overtravel	150 µm		150 µm
Maximum DC current	500 mA (2 A for -HC version)*		500 mA
Thermal range	-65 to 125°C		-65 to 125°C
Rc on aluminum (gold)	Typically < 0.05 Ω (< 0.02 Ω)		Typically < 0.05 Ω (< 0.02 Ω)
Rc variation during one 5-hour single contact cycle**	10 mΩ		10 mΩ
Min. probe pad size	25 x 35 µm (best case)		25 x 35 µm (best case)

*** High-current version (2 A) available up to 67 GHz (GSG only).**
****Specifications applicable at 25°C operating temperature on clean aluminum.**

Recommended Impedance Standard Substrates

Freq (GHz)	Config	Pitch	Part No.
DC to 40 DC to 50 DC to 67*	GSG	100 to 250	101-190
	GS/SG	100 to 250	103-726
	GSGSG, SGS	100 to 125	129-239
		150 to 225	129-240
		250	129-241
	GSSG	100 to 150	129-246
		200 to 250	129-247
DC to 110*	GSG	100 to 150	104-783
DC to 325*	GSG	50 to 75	138-356
DC to 325*	GSG	100 to 150	138-357

***Use of absorbing auxiliary chuck or absorbing ISS holder (p/n 116-344) recommended**

Cables for Use with Infinity Probes

Freq (GHz)	Probe station	Body style	Length	Part number
DC to 40	Summit™ 11K/12K, S300	A	48 inch	132-423
		V	48 inch	132-420
	M150, RF-1,9K, no MicroChamber	A	48 inch	124-084-B
		V	48 inch	101-162-B
DC to 50	Summit 11K/12K, S300	A	48 inch	132-424
		V	48 inch	132-421
	M150, RF-1,9K, no MicroChamber	A	48 inch	124-085-B
		V	48 inch	103-202-B
DC to 67	Summit 11K/12K, S300	A	36 inch	132-425
		V	36 inch	132-422
	M150, RF-1,9K, no MicroChamber	A	36 inch	124-606-B
		V	36 inch	124-605-B
DC to 110	Summit 11K/12K, S300	A, V	18 cm	132-458
	Elite300™	A, V	24 cm	147-316

'A' denotes 45° angled coaxial connector body style.
'V' denotes vertical coaxial connector body style.

WAVEGUIDE INFINITY PROBES

For each rectangular waveguide designation there are two different probe models.

The "T" models are designed to be compatible with Cascade Microtech's Summit 11000/12000, S300 and Elite300 probing stations.

These models are also TopHat™ compatible when used with TopHat PNs 116-441 and 115-164.

The "S" probe models are compatible with Cascade Microtech's 150mm probing stations.

All models are available without bias network by request.

For Elite300 version waveguide, consult with Cascade Microtech or your local representative for compatibility.

	Body style "T" (tall)	Body style "S" (short)
Waveguide designator (Frequency range)		
WR3 (220 to 325 GHz)	I325-T-GSG-xxx-BT	I325-S-GSG-xxx-BT
WR5 (140 to 220 GHz)	I220-T-GSG-xxx-BT	I220-S-GSG-xxx-BT
WR6 (110 to 170 GHz)	I170-T-GSG-xxx-BT	I170-S-GSG-xxx-BT
WR8 (90 to 140 GHz)	I140-T-GSG-xxx-BT	I140-S-GSG-xxx-BT
WR10 (75 to 110 GHz)	I110-T-GSG-xxx-BT	I110-S-GSG-xxx-BT
WR12 (60 to 90 GHz)	I90-T-GSG-xxx-BT	I90-S-GSG-xxx-BT
WR15 (50 to 75 GHz)	I75-T-GSG-xxx-BT	I75-S-GSG-xxx-BT
Typical insertion loss / return loss		
I325	6.5 dB / 13 dB	5 dB / 12 dB
I220	5.2 dB / 13 dB	4 dB / 13 dB
I170	4.7 dB / 13 dB	4 dB / 13 dB
I140	3.1 dB / 13 dB	3 dB / 13 dB
I110	2.6 dB / 13 dB	2 dB / 13 dB
I90	2.6 dB / 13 dB	2 dB / 13 dB
I75	2.1 dB / 13 dB	1.5 dB / 13 dB
Electrical repeatability	-60 dB	-60 dB
Probe pitch (25 µm increments)	50 to 100 µm (WR3, WR5, WR6, and WR8) 50 to 150 µm (WR10, WR12, and WR15)	50 to 100 µm (WR3, WR5, WR6, and WR8) 50 to 150 µm (WR10, WR12, and WR15)
Recommended overtravel	25 to 50 µm	25 to 50 µm
Maximum safe overtravel	100 µm	100 µm
Maximum DC current	500 mA	500 mA
Thermal range	-65 to 125ºC	-65 to 125ºC
Rc on almunium	Typically < 0.05 Ω	Typically < 0.05 Ω
Rc on gold	Typically < 0.02 Ω	Typically < 0.02 Ω
Rc variation during one 5-hour single contact cycle*	10 mΩ	10 mΩ
Minimum probe pad size	25 x 35 µm (best case)	25 x 35 µm (best case)

***Specifications applicable at 25°C operating temperature on clean aluminum.**

Recommended Impedance Standard Substrates

Model	Config	Pitch (µm)	Part No.
WR3* WR5* WR6* WR8* WR10* WR12* WR15*	GSG	50 to 75 100 to 150	138-356 138-357

***Use of absorbing auxiliary chuck or absorbing ISS holder (p/n 116-344) recommended**

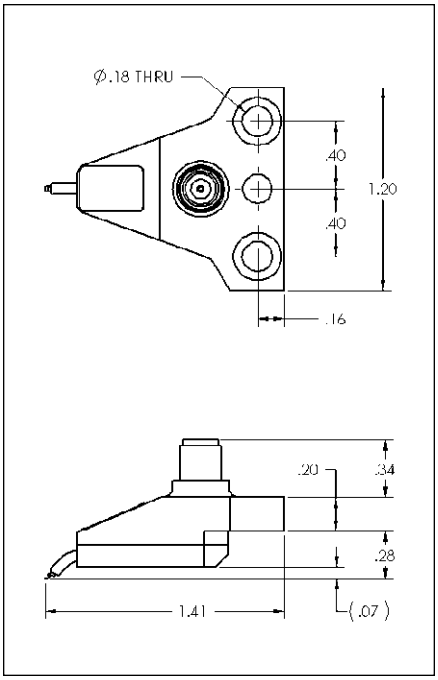
Waveguide Sections for Use with Waveguide Infinity Probes

*For Elite300 version waveguide, consult with Cascade Microtech for compatibility.

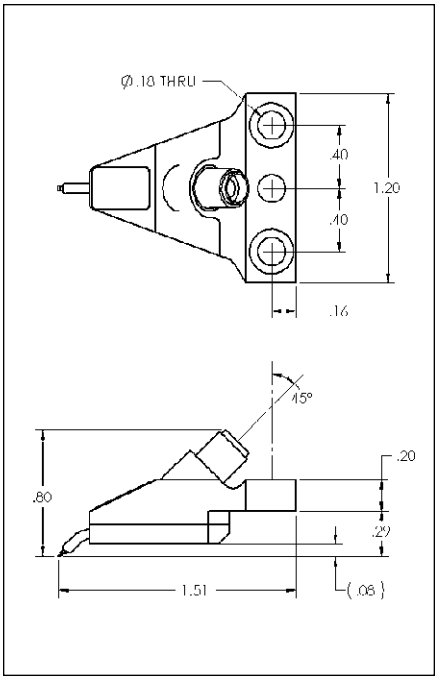
Waveguide "T" model	Waveguide S-bend section
WR3	147-309 (147-310 for Elite 300)
WR5	133-994
WR6	133-995
WR8	133-996
WR10	133-997
WR12	133-998
WR15	133-999

Waveguide "S" model	Waveguide S-bend section
WR3	144-399
WR5	133-988
WR6	133-989
WR8	133-990
WR10	133-991
WR12	133-992
WR15	133-993

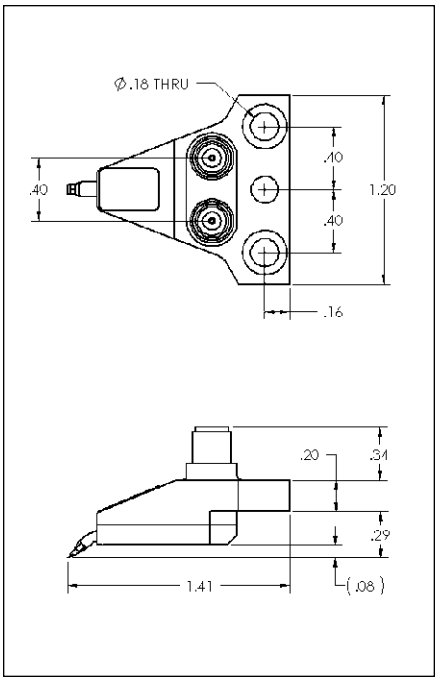
INFINITY PROBES



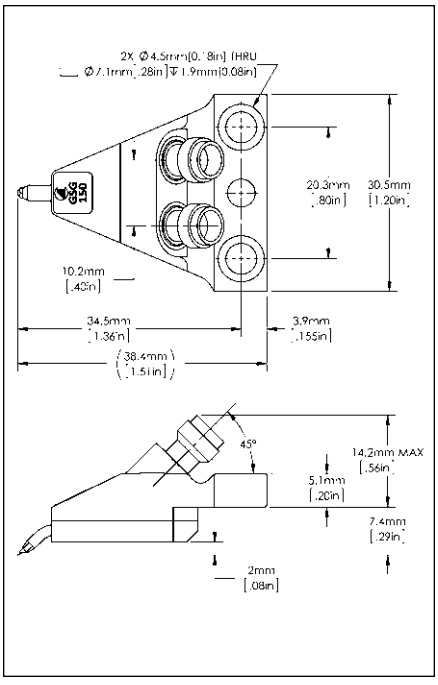
Infinity Probe, vertical body style



Infinity Probe, angled body style

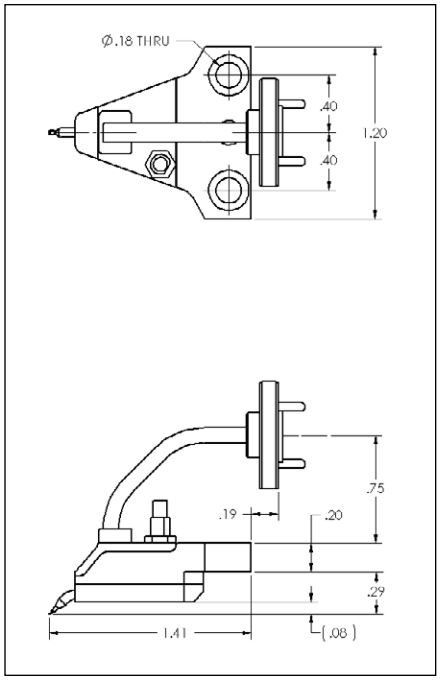


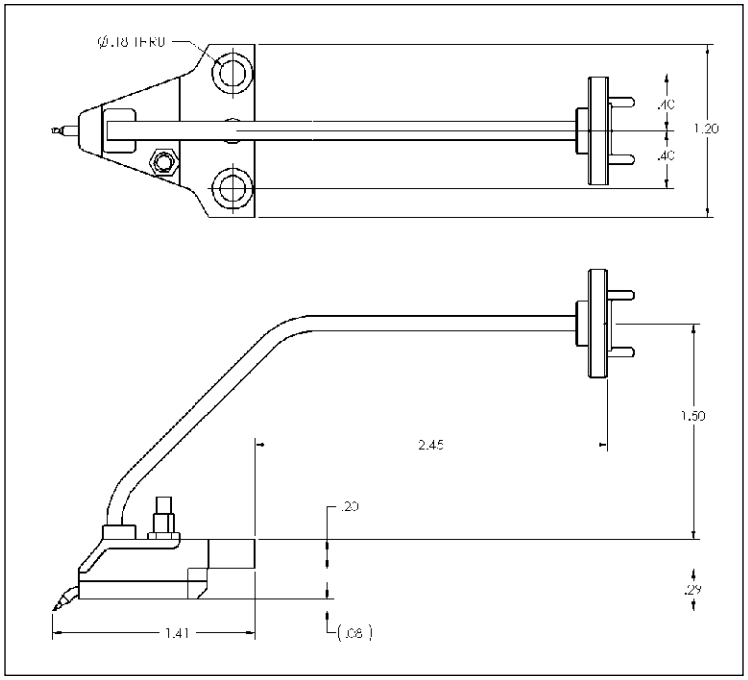
Dual Infinity Probe



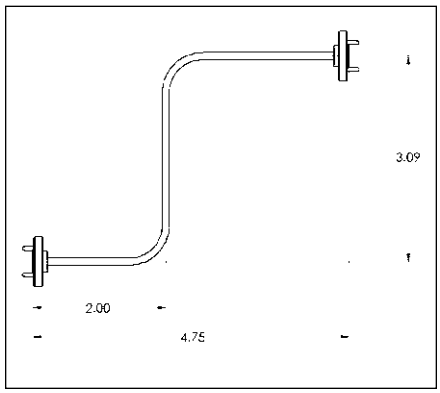
Dual Infinity Probe, vertical body style

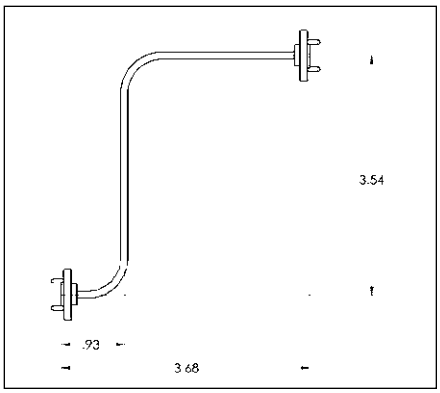
INFINITY PROBES





Waveguide Infinity Probe - "S" Model on the left, and "T" Model on the right





Waveguide S-bend for Waveguide S & T models: left for 9k probe stations, right for Summit 11K/12K and S300 stations.

Note: Additional versions are available for the Elite300 probe station and for the I325 probe. Consult with factory for more information

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP