

MODEL 44RF PROBE

Description

The Model 44RF is used for testing ground and signal contacts on high frequency hybrid and integrated circuits. The probe's return loss can be increased by the addition of internal loss. It is designed for use with manipulators for fast accurate positioning of the probe tips. For quick measurements, the probe can be hand held and hand positioned onto pads.

Mechanical Data

Mounting	1/8 inch shank (3.175mm)
Length - (overall)	
• Model 44RFMANPSGx-tt	3.2 inches (8.12cm)
• Model 44RF8000SGx-tt	4.5 inches (11.43cm)
Probe Tip	
• Point Radius (standard)	0.5µm
• Custom point radius may be ordered	
Radius factory adjustable	0.25 to 60 µm
Tip Spacing (factory settable)	10 to 100 mils (50 mil standard)
Tip Wire	Tungsten
• Diameter	7 mils
Connector	SMA (3.5mm or K Compatible)
Mounting Accessories	Provided
Housing size (outside)	4x.4x.4 inches (10.3x10.3x10.3mm)
Weight	1 oz.

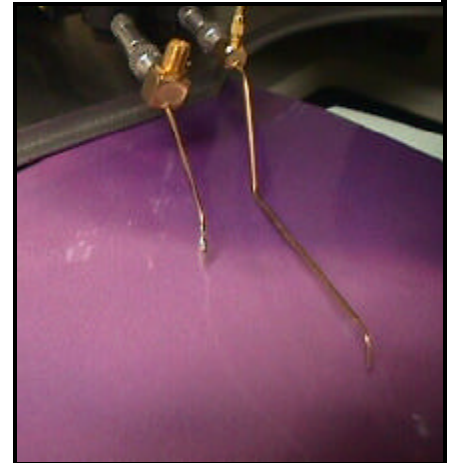
Electrical Specifications

(Typical Data, T=25C, SMA Connector version)

Frequency range (Uncompensated)	DC—3 GHz
Impedance level (frequency dependent)	< 10 Mohms
Voltage range (tip spacing dependent)	< 450 V DC @ sea level
Current capability	300 mAs
Probe Capacitance	5 to 12 pF
Insertion Loss	
• 50 MHz-500 MHz (no internal added losses)...	0.25 dB
• 500 MHz-1 GHz (no internal added losses).....	0.5 dB
• 1.5 GHz-3 GHz	1.5 dB
Return Loss (50 ohm system)	
• 50 MHz-500 MHz	20 dB
• 500 MHz-1.5 GHz (typical)	14 dB
• 1.5 GHz-3 GHz	10 dB
Crosstalk Attenuation	
• Two probes spaced 100 mils in air	60 dB
Internal Terminations (25 ohms to 2K ohms)	Customer specified
Electrical Noise Floor (25C, mid-band typical)	-135 dBm/Hz
Frequency range	
(Compensated by Vector Network Analyzer)	DC—3 GHz
Electrical Connections	
• Standard	SMA
• Optional	UMC
Probe wire	Tungsten
• Internal Resistance	0.3 ohms
• Diameter	7 mils

Special Order Terminations

Micromanipulator provides either series resistive elements within the probe housing or parallel terminations. Typical element values available include the following values: 45Ω, 50Ω, 550Ω, 950Ω. Other values can be special ordered, please consult the factory. Customer access to these terminations is provided, field changes or additions can be accomplished readily. More than 20 versions of Model 44 are available.



Environmental Data

Temperature range (Max):	
• -60°C to +150°C	
(Chuck/DUT Temperature)	
Humidity: up to 95%	
Materials (Nonhazardous):	
• Tungsten	
• Copper	
• Brass	
• Teflon®	

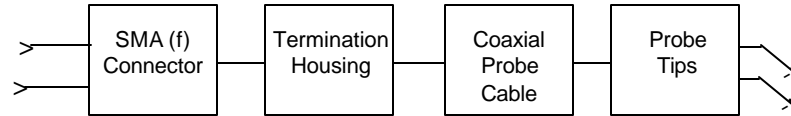


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Specifications subject to change without notice.

Electrical Schematic/Block Diagram**Application Information**

The Model 44RF is used for probing ground and signal contacts on high frequency hybrid and integrated circuits. The probe's return loss can be increased by the addition of internal loss elements. It is designed for use with manipulators for fast accurate positioning of the probe tips.

Ordering Information

44RF8000VGS-tt **44RFMANPVGS-tt** **Series Resistor**

44RF8000VGT-tt **44RFMANPVGT-tt** **Termination**

—Model 44RFMANPVGx-tt probe with 3.2 inch coaxial probe, tungsten tip wire for use on 6000 series probe stations, ground plane tip, gold plated, UMC female connector. For 8000 series probe stations, select the Model 44RF8000VGx-tt which is a 4.5 inch probe.

44RF8000SGS-tt **44RFMANPSGS-tt** **Series Resistor**

44RF8000SGT-tt **44RFMANPSGT-tt** **Termination**

—Model 44RFMANPSGx-tt probe with 3.2 inch coaxial probe, tungsten tip wire and bent for use on 6000 series probe stations, ground plane tip, SMA female connector. For 8000 series probe stations, select the Model 44RF8000SGx-tt which is a 4.5 inch probe.

Notes:

- tt designates the spacing between Signal and Ground tips. Specify spacing in "mils" between 10 and 99.
- Consult factory for exact part number and/or customer special orders.