

Model 28 and Model 29 Active probe (DC - 1GHz)


MODELS 28 and 29 have been designed to serve the needs of integrated circuit engineers working in the most advanced high speed, submicron, MOS technology. These high frequency instruments include the attractive features of the Models 18B and 19 including full dc capability, negligible dc current drain, and extremely low input capacitance. In addition the frequency range of the Models 28 and 29 has been extended to a full 1 GHz.



Probe tips can be ordered with 10, 20, or 50 micron diameter tungsten probe wires that are electrochemically sharpened to a point radius of less than 0.5, 1.0, and 3.0 microns respectively. The 10 and 20 micron wires flex when in contact with the circuit so that potential damage to the circuit and probe point is minimized. The flexible tip tends to keep the probe point in contact with the circuit even in the presence of probe table vibrations. The heavier 50 micron probe wire can be used when a stronger contact force is required.

The circuitry located in the Model 28 and Model 29 body is very rugged; however, the unprotected MOS input in each probe tip is subject to damage by accidental electrostatic discharge. Should the MOS input or probe point become damaged, the probe tip can easily be removed and replaced at minimal cost.

Specifications	Model 28	Model 29
Input Capacitance	0.04pF	0.04pF
Input Leakage	10 femtoamps	10 femtoamps
Rise/Fall Time	350ps (+5V pulse or less)	350ps ($\pm 2.5V$ pulse or less)
Frequency Response	dc to 1GHz (-3dB)	dc to 1Ghz (-3dB)
Operating Range	-3 to +10V	-7 to + 6V
Linearity	0.5%(-1 to +4V range) / 2.0%(+ 3 to +10V range)	0.5%(-2 to +2V range) / 2.0%(-7 to +6V range)
Gain Accuracy	$\pm 3\%$	$\pm 3\%$
Signal Attenuation	20 to 1 (50ohm input)	20 to 1 (50ohm input)
Note	Require the use of a Power Supply powering 2 probes	

Model 28 and 29 Replacement Tips			
Part Number	Tungsten Probing Wire Shaft Diameter	Point Radius	
28-5-10	10 micron	<0.1 micron	
28-5-20	20 micron	<1.0 micron	
28-5-50	50 micron	<3.0 micron	
Model 29 uses Model 28 probe tips			