N2795A/96A
Single-ended Active Probes

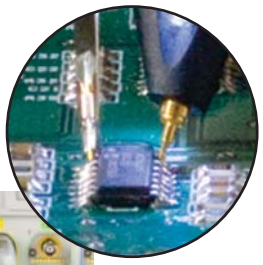
Data Sheet

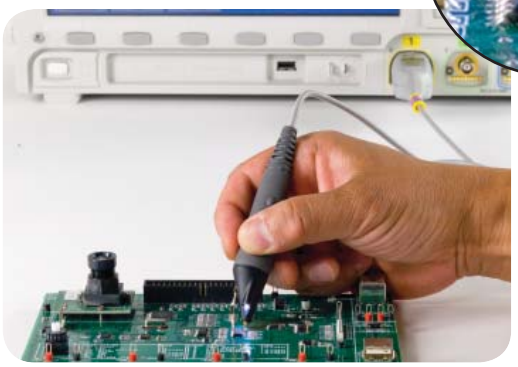
Key Features

- High resistance (1MΩ) and low capacitance (1 pF) input for low loading
- Wide input dynamic range (±8V) and offset range (±12V for N2796A, ±8V for N2795A)
- Built-in headlight for better visibility while probing
- Includes various probe tip accessories
- Direct connection to AutoProbe interface (no power supply required)
- Provides full system bandwidth with InfiniiVision and Infiniium oscilloscopes with bandwidths up to 1 GHz



N2795A/96A active probe with standard accessories



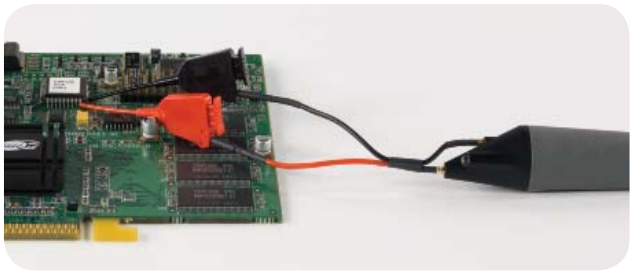


A White LED headlight can be turned on to illuminate the circuit under test for better visibility while probing

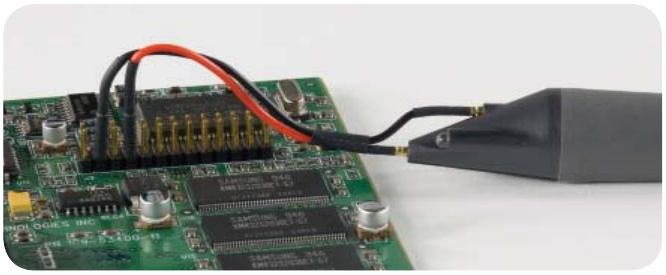
The N2795A/96A are a new generation of low-cost, 1 and 2 GHz single-ended active probes with the AutoProbe interface (compatible with Agilent's InfiniVision and Infiniium family of oscilloscopes). These probes integrate many of the characteristics needed for today's general-purpose, high-speed probing - especially in digital system design, component design/characterization, and educational research applications. Its 1MΩ input resistance and extremely low input capacitance (1 pF) provide ultra low loading of the DUT. This, accompanied with superior signal fidelity, makes these probes useful for most of today's digital logic voltages. And with their wide dynamic range (±8 V) and offset range (±12 V for N2796A, ±8 V for N2795A), these probes can be used in a wide variety of applications.

For high signal integrity probing, the N2795A 1 GHz and N2796A 2 GHz active probes are perfect complements to Agilent's 500MHz – 600MHz and 1 GHz bandwidth scopes, respectively. The N2796A 2 GHz probe can also be used with Agilent's 2.5 GHz or higher bandwidth Infiniium scope as a low cost alternative to InfiniiMax probes.

The N2795A/96A are equipped with a pleasant white LED headlight to illuminate the circuit under test. The probes are powered directly by the InfiniiVision and Infiniium Autoprobe interface, eliminating the need for an additional power supply. The probes also come with a number of accessories that allow for easy connections to the circuit under test.



Use flex nose clip adapters with the dual lead adapter to obtain access to IC leads or head connectors.



The dual lead adapter allows you to easily connect the probe to a popular 0.1" pin header with 0.025" square pins.

Characteristics

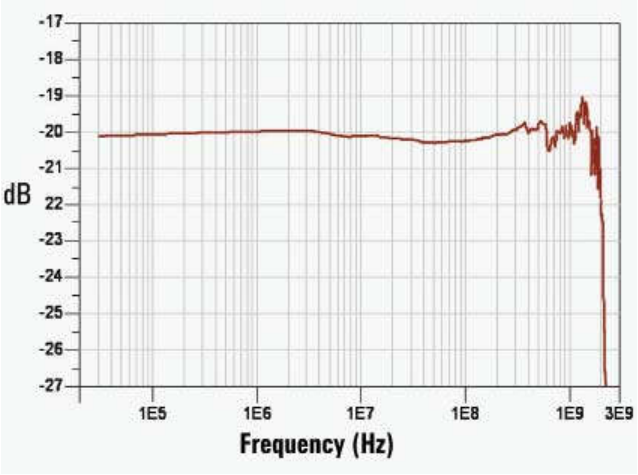
	N2795A	N2796A
Probe Bandwidth* (-3db)	1 GHz	2 GHz
Risetime (calculated, 10-90%)	350 psec	175 psec
System Bandwidth (with Agilent oscilloscope)	500/600 MHz (with Agilent's 500/600 MHz InfiniiVision/ Infiniium oscilloscope)	1 GHz (with Agilent's 1 GHz InfiniiVision/ Infiniium oscilloscope)
Attenuation Ratio (@DC)	10:1 ± 0.5%	
Input Dynamic Range	-8 V to +8 V (DC or peak AC)	
Non-destructive Max Input Voltage	-20 V to +20 V	
Offset range	±8 V	±12 V
DC Offset Error (Output Zero)	< ±1 mV	
Flatness	Typical 0.4 dB (100 kHz - 100 MHz) Typical 0.6 dB (100 MHz - 500 MHz) Typical 0.8 dB (500 MHz - 1 GHz) Typical 1.3 dB (1 GHz - 2 GHz)	
Input Resistance*	1 MΩ	
Input Capacitance	1 pF	
Probe Noise	<1mVrms (referred to input)	
Output Impedance	50 Ω	
Internal Power	Agilent Autoprobe Interface from scope (InfiniiVision and Infiniium)	
Cable length	1.3 m	
Probe Weight	Approx. 100 g	
Ambient Operating Temperature	0 to 50 deg C	
Ambient Non-operating Temperature	-40 to 70 deg C	
Operating Humidity	95% RH @ 40 deg C	

	N2795A	N2796A
Non-operating Humidity	90% RH @ 65 deg C	
Operating Altitude	4000 m	
ESD	8 kV HBM	
Standard Accessories	- 2 each spring probe tip - 2 rigid probe tip - 1 each flex nose clip adapter (red and black) - 1 each copper pad, 10x - 1 each Y-lead adapter, 10 cm - 1 each right angle ground, 5 cm - 1 each right angle ground, 10 cm - 2 each ground blade - 1 each offset ground - 1 each flex ground - 4 color coding rings (each yellow, green, blue and purple)	
Others (included)	-1 each accessory card	
Standard Warranty	1 year (extended warranty available at cost)	
Compatible Agilent scopes	Agilent InfiniiVision 5000, 6000, 7000 (except 6000 100MHz) and Infiniium 9000, 90000, 90000 X-Series (with N5442A)	

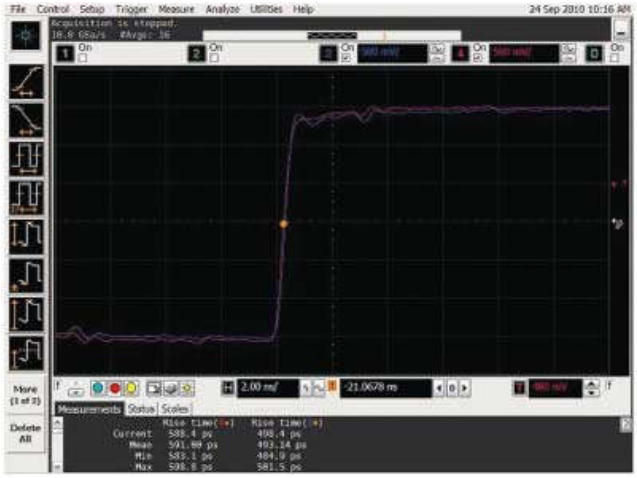
Model number	Description
N2795A	1 GHz single-ended active probe
N2796A	2 GHz single-ended active probe

* denotes warranted electrical specifications after 20 minute warm-up, all others are typical

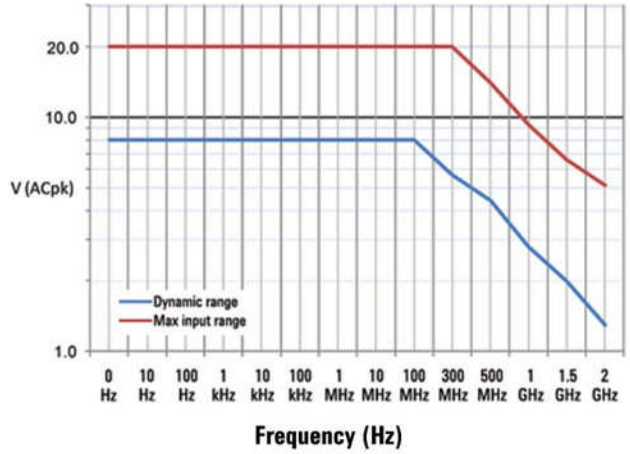
Measurement plots



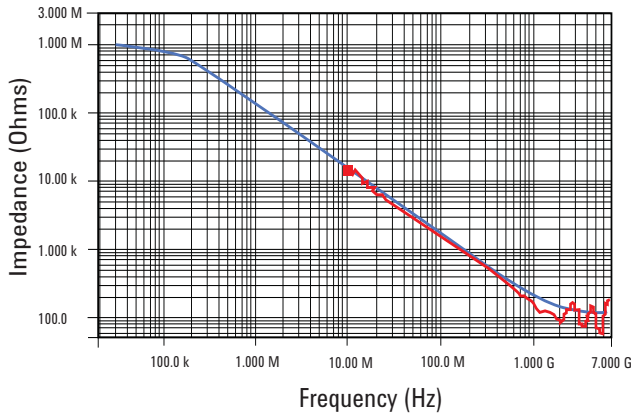
Frequency response of N2796A (Vout/Vin)



Time domain step response of N2796A (with Agilent MSO9404A)



Voltage derating over frequency (N2796A)



Input impedance over frequency (Red = measured, Blue = model)

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