

Characteristics and Specifications

This section lists the characteristics and specifications for the probes. The probe and oscilloscope should be warmed up for at least 20 minutes before any testing and the environmental conditions should not exceed the probe's specified limits.

Table 4 Electrical Characteristics (Sheet 1 of 3)

Description	Characteristic
Attenuation ratio	N2870A: 1:1 N2871A: 10:1 N2872A: 10:1 N2873A: 10:1 N2874A: 10:1 N2875A: 20:1 N2876A: 100:1 N2894A: 10:1
Bandwidth (-3 dB)	N2870A: 35 MHz N2871A: 200 MHz N2872A: 350 MHz N2873A: 500 MHz N2874A: 1.5 GHz N2875A: 500 MHz N2876A: 1.5 GHz N2894A: 700 MHz ^a
Probe Risetime (10%-90%)	N2870A: 10 ns N2871A: 1.4 ns N2872A: 1.0 ns N2873A: 700 ps N2874A: 240 ps N2875A: 700 ps N2876A: 240 ps N2894A: 500 ps

Table 4 Electrical Characteristics (Sheet 2 of 3)

Description	Characteristic
Maximum Rated Input Voltage	N2870A: 55 V CAT II N2871A: 400 V CAT I ^b , 300 V CAT II ^c N2872A: 400 V CAT I ^b , 300 V CAT II ^c N2873A: 400 V CAT I ^b , 300 V CAT II ^c N2874A: 8.5 V CAT I ^d N2875A: 400 V CAT I ^b , 300 V CAT II ^c N2876A: 21 V CAT I ^d N2894A: 400 V CAT I ^b , 300 V CAT II ^c
Input Resistance (scope + probe)	N2870A: 1 MΩ N2871A: 10 MΩ N2872A: 10 MΩ N2873A: 10 MΩ N2874A: 500 Ω N2875A: 20 MΩ N2876A: 5 KΩ N2894A: 10 MΩ
Input Capacitance (system)	N2870A: 39 pF (+ scope) N2871A: 9.5 pF N2872A: 9.5 pF N2873A: 9.5 pF N2874A: 1.8 pF N2875A: 5.6 pF N2876A: 2.2 pF N2894A: 9.5 pF
Compensation Range	N2870A: — N2871A: 10 - 25 pF N2872A: 10 - 25 pF N2873A: 10 -25 pF N2874A: — N2875A: 7 - 20 pF N2876A: — N2894A: 10 - 25 pF

Table 4 Electrical Characteristics (Sheet 3 of 3)

Description	Characteristic
Input Coupling of the Measuring Instrument	N2870A: 1 M Ω N2871A: 1 M Ω N2872A: 1 M Ω N2873A: 1 M Ω N2874A: 50 Ω N2875A: 1 M Ω N2876A: 50 Ω N2894A: 1 M Ω

a.700 MHz BW only available on DSOX/MSOX 4000A-series oscilloscopes with 1 GHz or 1.5 GHz bandwidth

b.Measurement Category I, 1250 V transient overvoltage

c.Measurement Category II

d.Measurement Category I, 0 V transient overvoltage

Table 5 Mechanical Characteristics

Description	Characteristic
Weight (probe only)	48 g
Cable Length	1.3 m
Probe Barrel Diameter	2.5 mm

Table 6 Environmental Specificatons

Description	Specification
Temperature	Operating: 0 °C to +50 °C Nonoperating: -40 °C to +70 °C
Altitude	Operating: 2,000 m (6,561 ft) Nonoperating: 15,000 m (49,212 ft)
Humidity	Operating: 80% room humidity for temperatures up to 31 °C, decreasing linearly to 40% at 50 °C Nonoperating: 95% room humidity for temperatures up to 40 °C
Pollution Degree	Pollution Degree 2

Table 7 Safety Specifications

Specification
Low Voltage Directive 2006/95/EC
CEI/IEC 61010-031:2008-08

Typical Voltage Derating for Each Probe Model (Measurement Category I)

WARNING

The maximum input voltage rating of the probe decreases as the frequency of the applied signal increases.

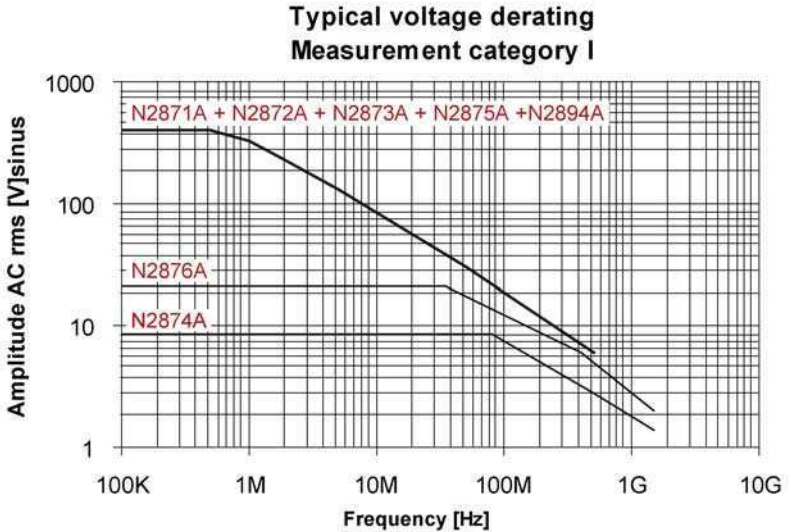


Figure 8. Typical Voltage Derating Plot

CAUTION

Refer to the oscilloscope documentation for the oscilloscope’s acceptable input range and do not exceed this limit when using the probes.

Typical Input Impedance for Each Probe Model

CAUTION

The input impedance of the probe decreases as the frequency of the applied signal increases.

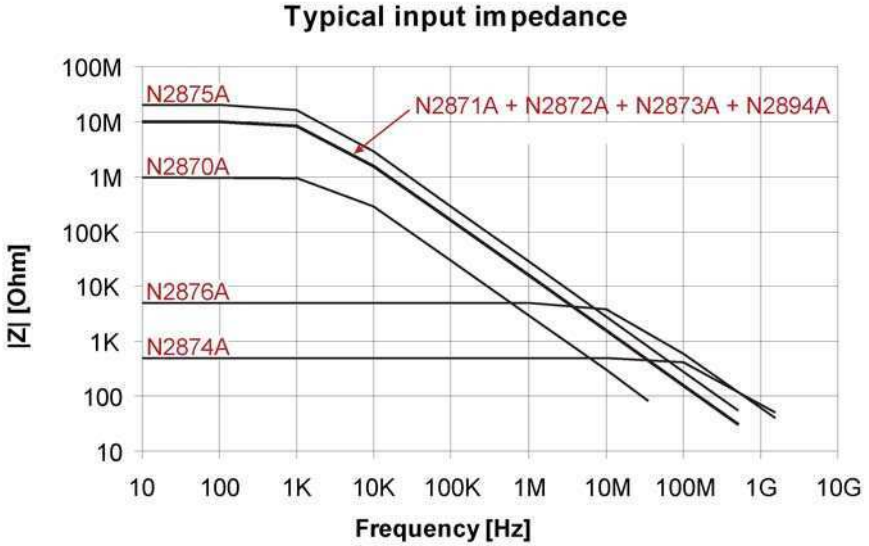


Figure 9. Typical Input Impedance