

N2862B/N2863B/N2889A/N2890A Passive Probes

Data Sheet



The Agilent N2862B, N2863B, N2889A and N2890A low-cost, general-purpose passive probes provide up to 500 MHz bandwidth and feature a high input resistance of 10 M Ω for low probe loading. These probes provide a 10:1 attenuation ratio except for the N2889A which provides a switch in the probe handle for switching the attenuation ratio between 1:1 and 10:1.

The probes are compatible with Agilent InfiniiVision and Infiniium Series oscilloscopes with 1 M Ω input.

Characteristics

Probe characteristics	N2862B	N2863B	N2889A	N2890A
Bandwidth (-3 dB)	150 MHz	300 MHz	350MHz (@10:1), 10MHz (@1:1)	500 MHz
Rise time (10% - 90%)	2.33 nsec	1.16 nsec	1 nsec (@10:1), 35 nsec (@1:1)	700 psec
Attenuation ratio	10:1	10:1	1:1/10:1 (switchable)	10:1
Input resistance (when terminated into 1 M Ω)	10 M Ω	10 M Ω	10 M Ω (@10:1), 1 M Ω (@1:1)	10 M Ω
Maximum input voltage	300 V RMS (or >400Vpk) CAT I and CAT II		300 VRMS (or >400Vpk) CAT I/II (@10:1), 150 V RMS CAT I/II (@1:1)	300 V RMS (or >400Vpk) CAT I and CAT II
Scope compensation range	5-30 pF	5-30 pF	5-30 pF (@10:1)	5-30 pF
Probe ID	Yes	Yes	No	Yes
Cable length	1.2 m	1.2 m	1.3 m	1.3 m
Safety	Conformance to IEC-61010-031:2002			
Operating Temperature	0 to 50 °C, 80% RH			
Storage Temperature	0 to 50 °C, 80% RH			



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Compensation Adjustments

These probes can be adjusted for low-frequency and high-frequency compensation. For the best measurement results you should compensate your probe to match its characteristics to the oscilloscope. A poorly compensated probe can introduce measurement errors. Low-frequency compensation should be performed before performing high-frequency compensation.

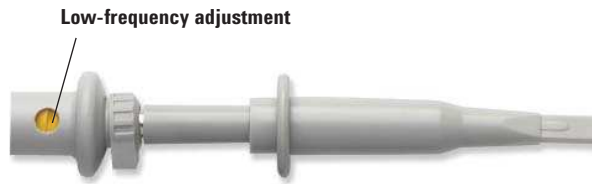


Figure 1. Low-frequency compensation adjustment.

Low-frequency compensation

1. Connect the probe from the appropriate oscilloscope channel to the 1-kHz square wave source.
2. Press Autoscale. Adjust the oscilloscope to display two to three cycles of the waveform over two to six vertical divisions.
3. Set the low-frequency compensation adjustment on the probe for the flattest pulse possible (see Figure 2).

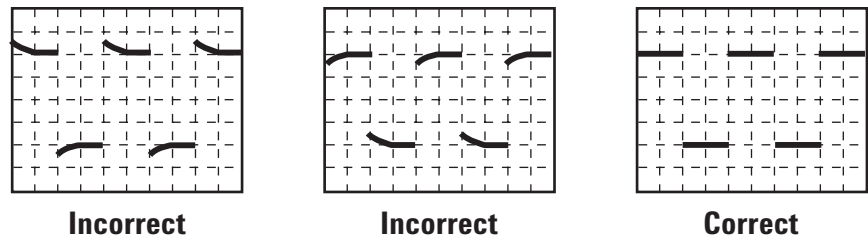


Figure 2.

High-frequency compensation

1. Using the BNC adapter, connect the probe to a square wave generator operating between 10-kHz and 1-MHz, and terminated into 50-Ω.
2. Press Autoscale. Adjust the oscilloscope to display one cycle of the waveform over two to six vertical divisions.
3. Set the high-frequency compensation adjustment on the probe for the flattest, most square, and most horizontal pulse possible (see Figure 4).

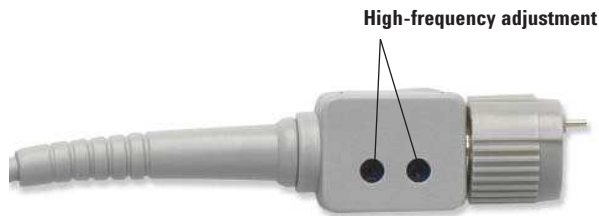


Figure 3. High-frequency compensation adjustment.

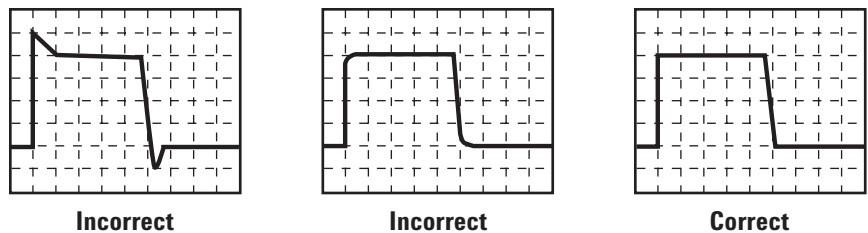


Figure 4.

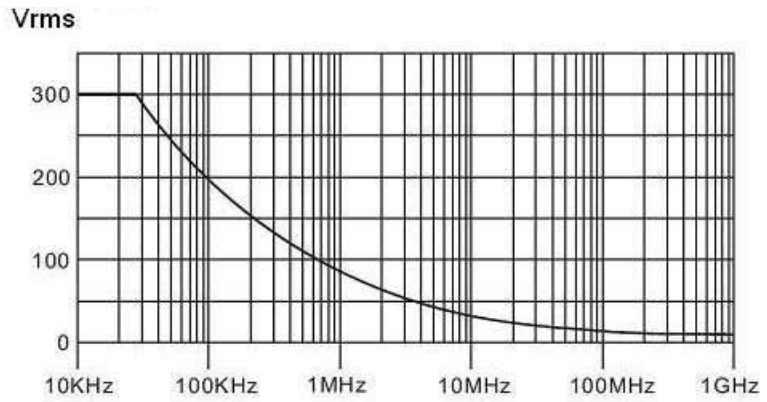


Figure 5. N2862B/63B/89A/90A voltage derating curve



Standard Accessories

Item	Description	Quantity
1	Retractable hook	1
2	Adjustment tools	2 (with N2889A/90A) 1 (with N2862B/63B)
3	Insulating cap	1
4	IC insulating cap	1
5	Identification tags (green,yellow, purple and pink)	2 each
6	Probe tip	2
7	Ground spring	1
8	BNC adapter	1
9	Ground lead (black 12 cm)	1

Replacement accessories

- 0960-2900 Retractable hook tips
- 0960-2922 PCB socket adapter
- 0960-2923 Dual-lead adapter



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