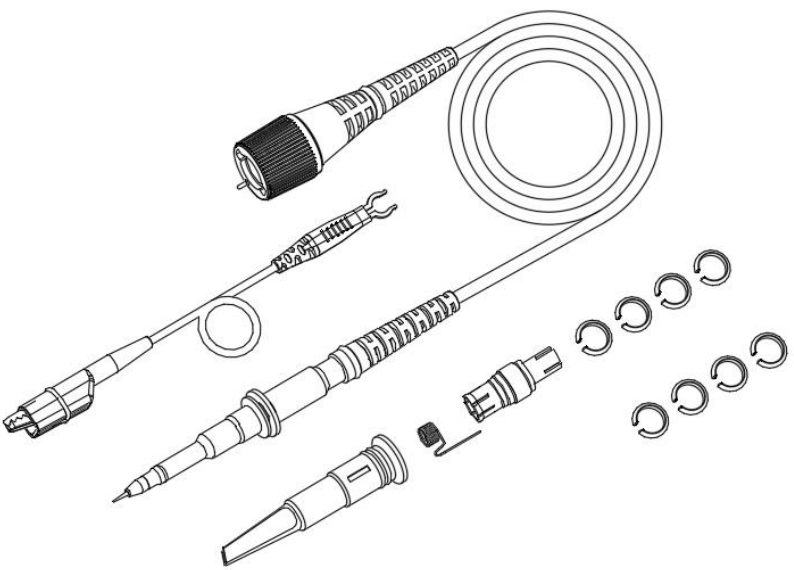
SIGLENT®
SIGLENT TECHNOLOGIES

SP6150A
Instruction Manual



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SP6150A Instruction Manual

Instruction Manual Version 1.1
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Faithful Reproduction of Signals

The SP6150A probes offer bandwidth of 1.5GHz and 10:1 attenuation ratio to address a wide range of measurement needs. For general purposing probing, the SP6150A's low capacitance, and low inductance ground connection keep probe loading low enough to achieve high signal integrity measurements. The SP6150A passive probe offers a low input capacitance, 1.8pF, for measuring fast edges more accurately, making it a good low-cost alternative to an active probe. The SP6150A probes are automatically recognized when connected to Siglent oscilloscopes.

Easy Access to Signals

The compact design along with a 3.8mm probe tip diameter provide better visibility of the circuit under test when compared to the conventional 5mm probes. This makes it easier to probe fine pitched ICs and components.

Inspecting the Probe

- **Inspect the shipping container for damage.**

Keep the damaged shipping container or cushioning material until the contents of the shipment have been checked for completeness and the probe has checked mechanically and electrically.

- **Check the accessories.**

If the contents are incomplete or damaged, notify your Siglent Technologies.

- **Inspect the instrument.**

If there is mechanical damage or defect, or if he probe does not operate properly or pass performance verification tests, notify your Siglent Tecnologies Sales Office.

If the shipping container is damaged,or the cushioning materials show signs of stress, notify the carrier as well as your Siglent Technologies Sales Office. Keep the shipping materials for carrier's inspection. The Siglent Technologies office will arrange for repair or replacement at Siglent Technolgies's option without waiting for claim settlement.

Cleaning the Probe

Disconnect the probe and clean it with a soft cloth dampened with a mild soap and water solution. Make sure the probe is completely dry before reconnecting it to an oscilloscope.

Handling the Probe

Handle the probe with care to avoid injury, considering it is fitted with the thin and sharp contact tip.

CAUTION

The probe cable is a sensitive part of the probe and, therefore, you should be careful not to damage it through excessive bending or pulling.You should also avoid any mechanical shocks to this product in order to guarantee accurate performance and protection.

General Safety Information

Observe generally accepted safety procedures in addition to those listed here to avoid personal injury or damage to equipment. **The overall safety of any system incorporating this accessory is the responsibility of the assembler of the system.**

Connect only to grounded instruments. Use only with compatible Siglent oscilloscopes that have their BNC input connected to an earth ground. Do not connect the probe reference lead to any point which is at a potential other than earth ground.

Connect and disconnect properly. Connect probe to the oscilloscope before connecting it to the test circuit. Disconnect the probe input and reference lead from the test circuit before disconnecting from the oscilloscope. Do not connect or disconnect probes while they are connected to a voltage source.

Do not keep the probe on the test point/hole when it is unused.

Do not apply excessive force on the probe.

Do not connect the probe with hot objects.

Do not overload. Do not apply any potential to the probe leads that exceeds the maximum rating of the probe. **Always comply with the Voltage vs. Frequency Derating Curve.**

Observe all terminal ratings. Observe all markings on the oscilloscope before connecting. Consult the oscilloscope product manual for further ratings information.

Do not remove probe casing. Touching exposed connections may result in electric shock.

Use indoors only within operational environment listed. Do not use in wet or explosive atmospheres. Keep product surfaces clean and dry.

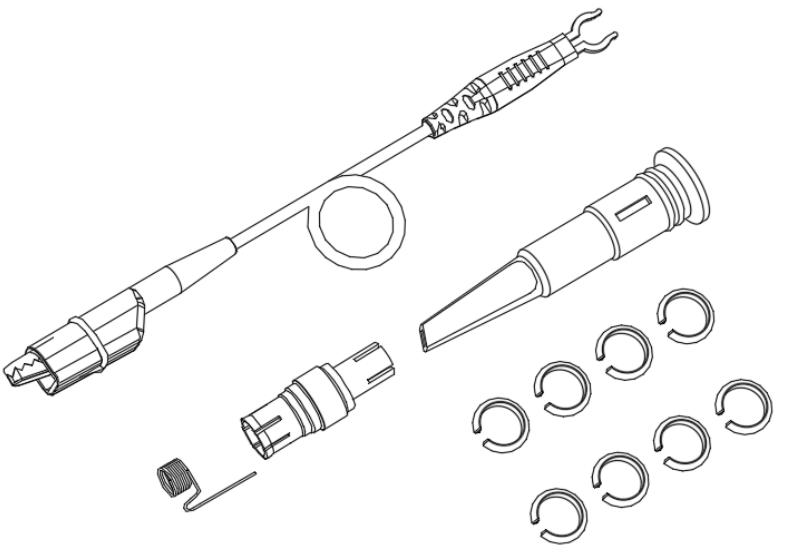
Handle with care. Probe tips are extremely sharp and may puncture skin or cause other bodily injury if not handled properly.

Keep fingers behind the finger guard of probe body and accessories.

Do not operate with suspected failures. Before each use, inspect the probe and accessories for any potential damage such as tears or other defects in the probe body, cable jacket, accessories, etc. If any part is damaged, cease operation immediately and sequester the probe from inadvertent use.

Accessories and Features

The probe is provided with several accessroies designed to make probing and measurements simpler. Please take a moment to familiarize yourself with these accessories and their uses.



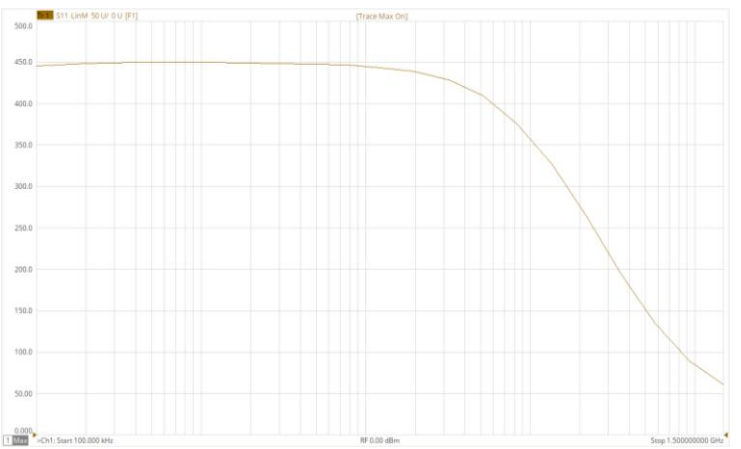
Ground Lead: Use the alligator clip to attach the probe to a ground reference.
Hook Tip: Retractable hook tip.
Ground Spring: Provides shorter grounding path for better signal integrity.
BNC Adapter: Realize the mutual conversion of signal.
Marker Rings: Attach the matched color rings onto the probe cable and shaft to identify different channels.

Characteristics and Specifications

This section lists the characteristics and specifications for the SP6150 probe. The probe and oscilloscope have better be warmed up for at least 20 minutes before any testing and the environmental conditions should not exceed the probe's specified limits.

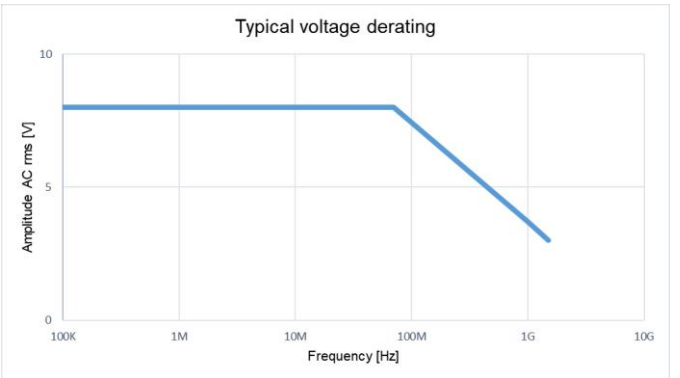
Typical Input Impednace

CAUTION:The input impedance of the probe is measured with SIGLENT VNA SNA5000X.



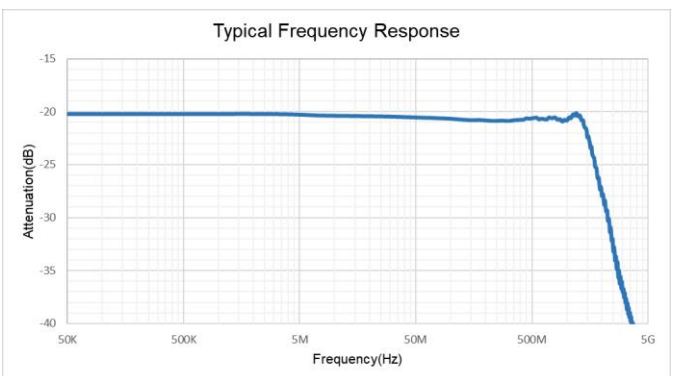
Typical Voltage Derating

CAUTION: The Maximum Input Voltage vs Frequency



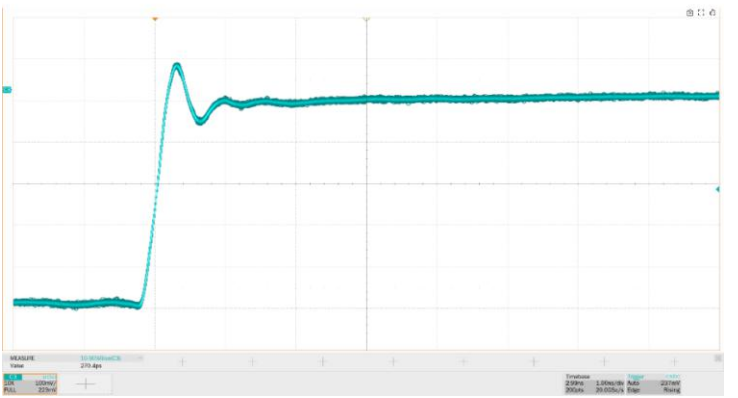
Typical Frequency Response

CAUTION:The frequency response of the probe drops after the frequency of the applied signal above 1.5GHz.



Typical Step Response

CAUTION:Typical step response of the probe is measured with SIGLENT oscilloscope SDS7000A with input fast edge of 30ps.



SP6150A Passive Probe

Probe Charateristics	
Model	SP6150A
Bandwidth (-3dB)	1.5GHz
Attenuation Ratio	10 : 1
Input Resistance (Probe + Scope)	500Ω ± 10Ω
Input Capacitance	1.8pF
Scope Input Coupling	50Ω
Max. Input Voltage	8.5V
Operating Temperature	0~50℃
Humidity	0~80%RH
Altitude	Operating 3000m Nonoperating 15000m
Cable Length	1.3m
Weight	About 37g
Safety	IEC61010-031

Accessory Kit		
Item	**Description**	**Quantity**
1	Hook Tip	1
2	Marker Rings	8
3	BNC Adapter	1
4	Ground Lead	1
5	Ground Spring	1

Note:

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Version EN01A

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