

SF-1200
1.2GHz FET PROBE
USER'S MANUAL

This probe is in compliance with IEC61010-031, Pollution Degree 2.

1. Safety Terms and Symbols

Terms appear in this manual:



WARNING. Warning statements identify conditions or practice that could result in injury or loss life.



CAUTION. Caution statements identify conditions or practice that could result in damage to this product or other property.

Symbols appear on the product:

G

Ground

+

Signal Input

2. General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this probe or any products which connected to it.

Observe Maximum Working Voltage

To avoid any injury, do not use the probe under the condition that the voltage between either input head or earth is above $\pm 40V$ (DC+peak AC).

Do Not Operate Without Covers

To avoid electric shock or fire hazard, do not operate this probe with covers removed.

Do Not Operate in Wet/Damp Conditions

To avoid electric shock, do not operate this probe in wet of damp conditions.

Do Not Operate in Explosive Atmosphere

To avoid injury or fire hazard, do not operate this probe in an explosive atmosphere.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Use Proper Power Source

To ensure this probe function well, use one 9V battery or 5 VDC/200 mA or 9VDC/150mA mains adaptor or power lead.

Do Not Operated with Suspected Failures

If you suspect there is damage to this probe, have it inspected by qualified service personnel.

3. Description

With high bandwidth, this FET probe is ideal for timing analysis or troubleshooting of high speed logic and for design verification of disk drive, as well as for wireless and data communication design.

4. Installation

- a. Simply plug-in the BNC output connector to the vertical input of a general purposed oscilloscope or other measurement instrument to a proper ground.

The measurement instrument must have a ground referenced.

- b. Connect an appropriate power source to this probe and then turn it on.



WARNING. To protect against electric shock, use only the accessories supplied with this probe.

- c. Using the appropriate accessories, connect the inputs to the circuits under measurement.

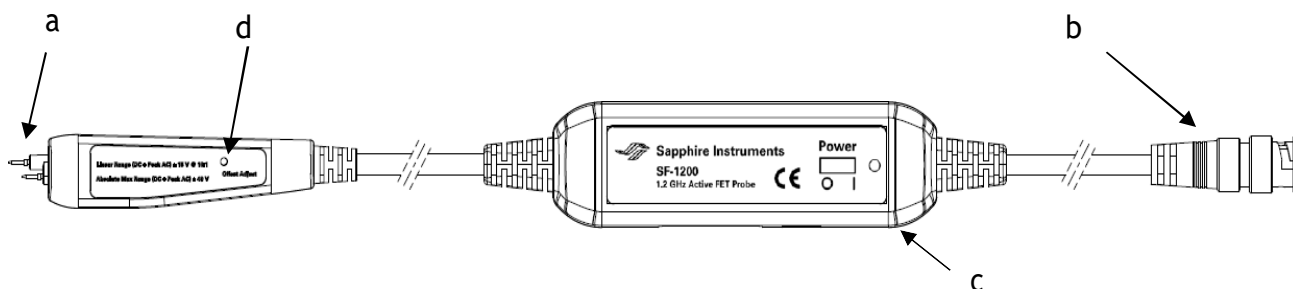


CAUTION. This probe is to carry out measurement between two points on the circuit under measurement.
This probe is not for electrically insulating the circuit

under measurement and the measuring instrument.

5. Appearance and Power Requirements

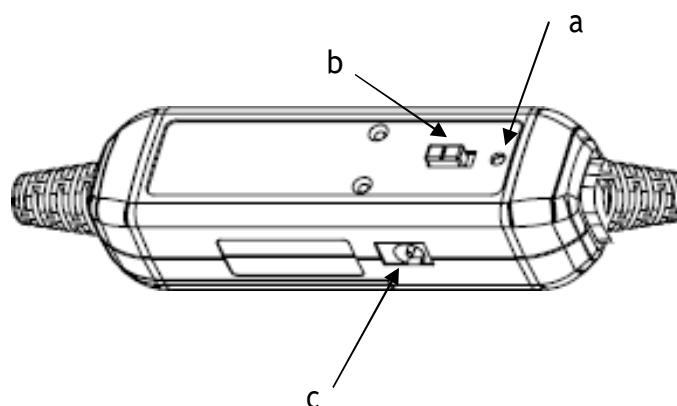
The FET probe looks as follows.



a. Input Pins	The input pins of the FET probe can be connected directly to the circuit under test or connected to optional accessories that come with the probes.
b. Output Cable	The BNC output connector is connected to the oscilloscope.
c. Power Unit	Power source as following; - Main adaptor (6VDC/200mA or 9VDC/150mA) or - 9V battery - Power lead
d. Output Offset Adjust Hole	

6. Power Unit

The following figure illustrates the operation of the power unit;

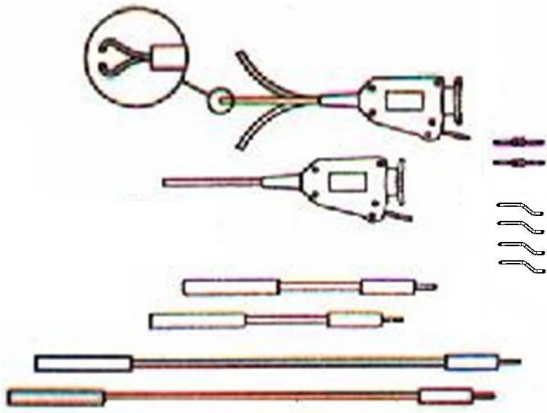


- LED indicator (green for normal operation, and turn to red when the voltage is too low)
- Power ON/ OFF switch
- Power jack

7. Specifications

Bandwidth	DC to 1.2 GHz (typical)
Accuracy	± 2%
Input Impedance	10 MΩ// 1.5 pF (typical)
Attenuation	10:1
Rise Time (Probe only)	291 ps
Input Voltage	
- Max. Differential	±20V (DC+peak AC)
- Absolute Max. Voltage	±40V (DC+peak AC)
Output Voltage	
- Swing (into 50 ohm load)	± 2V
- Offset (typical)	< ± 5mV
Adjustable output offset range	Larger than - 28 mV ~ + 28 mV
Output Impedance(typical)	50Ω (for using 50Ω input system oscilloscope)
Output BNC Cable	120 cm
Power Requirements	9V battery or 6 VDC/200 mA or 9VDC/150 mA or Power lead
Ambient Operating Temperature	-10 to 40 degree centigrade
Ambient Storage Temperature	-30 to 70 degree centigrade
Ambient Operating Humidity	0 to 85% RH
Ambient Storage Humidity	0 to 85% RH
Weight	200 gms
Dimensions (LxWxH)	83 mm x 19 mm x 14 mm

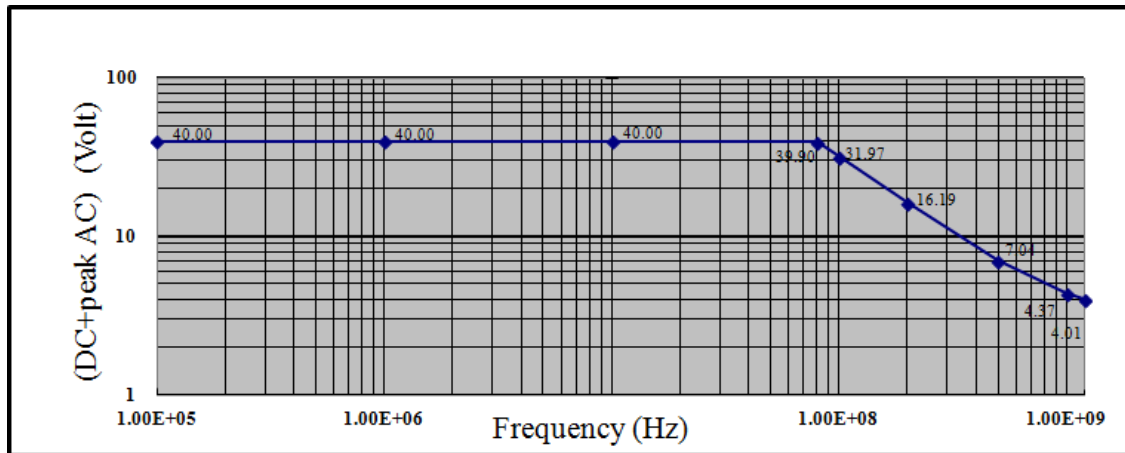
8. SMD Micro Test Accessories



Descriptions	Quantity
MicroFlex Pincer, Black	1
MicroFlex Pincer, Red	1
MicroLead, 0.8mm J-P, 5cm, Black	1
MicroLead, 0.8mm J-P, 5cm, Red	1
MicroLead, 0.8mm J-P, 10cm Black	1
MicroLead, 0.8mm J-P, 10cm Red 1	1
Angle Pin, 0.8mm	4
Test Tip, 0.8mm	6

9. Derating Curve

The derating curve of the absolute maximum input voltage is shown as follows



10. Inspection Procedure

- Connect the BNC output connector to the vertical input of a general purposed oscilloscope.
- Connect AC mains adapter.
- Set the oscilloscope input coupling to DC and the 0.5V/div. Center the trace on the display.
- Connect the input pins of probe to a function generator and select a square-wave output of 10V amplitude and 100kHz frequency.
- Then, a 100kHz square-wave of 1V amplitude will be displayed on the screen of the oscilloscope and this means the probe is working properly.