



S3447A SOI Noise Amplifier

The S3447A Noise Amplifier is specifically designed for high performance /high accuracy SOI device (packaged or wafer) flicker noise measurements in package or on wafer. The noise amplifier can be used in conjunction with Silvaco’s UTMOST III automatic parameter extraction software or stand alone for manual and interactive flicker noise measurements.

The advanced design of the S3447A amplifier meets the requirements for low amplitude noise measurements typically found in SOI devices by providing constant gain for frequencies up to 300kHz. The S3447A noise amplification system allows users to provide automatic DC biasing for noise measurements.

Specifications

Amplifier

Amplifier Type:	Non-Inverting Voltage Amplifier.
Amplifier Gain:	121
Amplifier Bandwidth:	300 kHz
Amplifier Noise Floor:	-128 dB (V)
Frequency Range:	0.25 Hz - 1 MHz.
Load Resistance	11 kΩ

DUT

DUT Type:	N-channel or P-channel transistors. (wafer or packaged)
Recommended Current range:	+/- 10μA to +/- 10mA.
Voltage range:	+/- 50V max.
Output impedance matching:	100Ω to 1MΩ
Input impedance matching:	0 to 100MΩ

Front Panel

Output to DUT:	5 BNC connectors for Drain, Gate, Source, Backgate and Bulk terminals.
Input to Amplifier:	5 Triax connectors for DC Analyzer SMUs.
Indicator:	Power.

Power (50-60 Hz)

110-120 +/- 10% VAC or
220-240 +/- 10% VAC

Physical

Dimensions (WxHxD):	8" x 4.75" x 9.75" (20.5cm. x 12 cm. x 25 cm.)
Weight:	7.5 lb (3.4 kg)

Operating Environment

Temperature:	0° C to 125° C
Humidity:	10% to 90% noncondensing.



System Requirements

DC Analyzer:	HP4141, HP4142, HP4145, HP4155/56.
Dynamic Signal Analyzer:	HP3561, HP3562, HP35660, HP35665, HP35670
Computer Operating Systems:	Solaris, Linux
Software:	UTMOSTIII version 15.2.0 or later with Noise Module.
GPIB Interface:	National Instruments GPIB-232CT-A Serial to GPIB converter Box
Cables:	6 BNC cables, 5 Triax cables.