

AC Dynamic Noise Measurement System

Introduction

Pioneering the forefront of semiconductor research under substantial excitation signal bias, Primarius 9812AC signifies a technological breakthrough. This dynamic noise measurement system, exclusively employing AC excitation, redefines low-frequency noise analysis in the commercial landscape, unveiling new vistas for comprehending semiconductor devices.

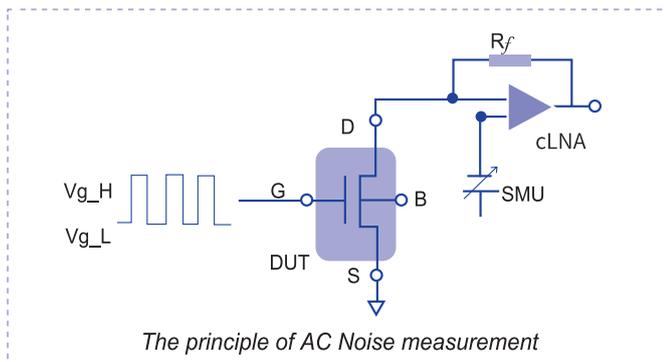
Tailored to fulfil diverse demands of foundries, IDMs, and academic institutions, 9812AC encompasses a spectrum of capabilities, including the generation of a wide range of dynamic bias signals, filtering signals, real-time monitoring of bias signal integrity, and signal amplification for output noise measurement.

Seamlessly integrated with its intuitive NoiseProPlus measurement software, 9812AC ensures effortless execution of measurement tasks, delivering user-friendly experiences.



Specifications

- Excitation frequencies: 10Hz to 100KHz
- Amplifiers: AC.3K cLNA and AC.30K cLNA
- Bandwidths:
 - AC.3K cLNA
<3Hz-1MHz, minimum input referred noise 3.5pA/ $\sqrt{\text{Hz}}$ (@5KHz)
 - AC.30K cLNA
3Hz-300KHz, minimum input referred noise 1pA/ $\sqrt{\text{Hz}}$ (@5KHz)
- Duty cycles:
 - 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8 and 8/8
- Delays:
 - 6.25%, 12.5%, 18.75%, 25%, 31.25%, 37.5%, 43.75%, 50%



Key Advantages

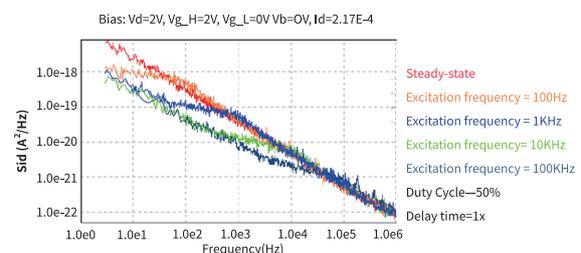
- First commercial AC noise measurement system
- Sophisticated system design for accurate measurement output
- Cutting-edge technologies and algorithms for wide applications
- User-friendly software for easy operations

Applications

- Process research and development
- Process/device evaluation for circuit design
- Investigation of device mechanism under switched bias conditions
- AC RTN characterization and research

Application Examples

AC noise results under different excitation frequencies



AC noise results under different duty cycles

