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SAND2017-10120
Unlimited Release
September 2017

Understanding Photon / Free Carrier Interaction in LVP Signals on Ultra-Thin Silicon ICs

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Abstract

This project investigated a recently patented Sandia technology known as visible light Laser Voltage Probing (LVP). In this effort we carefully prepared well understood and characterized samples for testing. These samples were then operated across a range of configurations to minimize the possibility of superposition of multiple photon carrier interactions as data was taken with conventional and visible light LVP systems. Data consisted of LVP waveforms and Laser Voltage Images (LVI). Visible light (633 nm) LVP data was compared against 1319 nm and 1064 nm conventional LVP data to better understand the similarities and differences in mechanisms for all wavelengths of light investigated. The full text can be obtained by reaching the project manager, Ed Cole or the Cyber IA lead, Justin Ford.

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