

Abstract Submitted  
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**Two-dimensional time-resolved measurement of plasma parameters on a wafer-level using floating harmonic method** IL-SEO PARK, KWAN-YONG KIM, DONG-HWAN KIM, YU-SIN KIM, CHIN-WOOK CHUNG, Hanyang University, DEPARTMENT OF ELECTRICAL ENGINEERING TEAM, DEPARTMENT OF NANOSCALE SEMICONDUCTOR ENGINEERING TEAM — Two-dimensional time-resolved plasma diagnostic system is developed to observe transient plasma behaviors. The system is composed of wafer-type probe array, 16-channel/simultaneous data acquisition system, and driving circuit for floating harmonic method (FHM). The FHM can measure the electron density and electron temperature with high time resolution up to 200 microsec. By using the diagnostic system, transient plasma behaviors, such as effects of gas inlet and antenna power absorption, were observed. When the gas is distributed non-uniformly, the plasma density is relatively high near the gas inlet. In addition, antenna-shape plasma profiles are observed when the plasma is turned on and off.

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